

Dept # 442 A

1/4/84

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# Nicolet

Digital  
Oscilloscope

442A

TEST DISK

for performance check



CD-ROM 24000000

MCGRATH  
INSTRUMENT  
CORPORATION  
OSCILLOSCOPE DIVISION



# **SERVICE MANUAL**

## **FOR**

## **SERIES 2090 DIGITAL**

## **OSCILLOSCOPES**

**NOVEMBER 1981**



**NICOLET  
INSTRUMENT  
CORPORATION**  
OSCILLOSCOPE DIVISION







## SPECIFICATIONS

2090-2	2090-3
Memory:	4,096 words by 12 bits. Data may be stored in all of the memory, in either half or in any quarter.
Power Requirements:	101, 115, 202, 230 volts ac ( $\pm 10\%$ ) 50-60 Hz ( $\pm 5\%$ ), 225 volt-amperes.
Display Expansion:	Digital expansions of X2, X4, X8, X16, X32 or X64, horizontal and/or vertical. Display may be automatically centered around intersection of the horizontal and vertical cursors.
Display Mode:	Choice of X/Y or Y/T.
Data Functions:	Data may be inverted, moved, added, subtracted, outputted to a pen recorder or manually erased.
Pen Recording:	Control signals to operate an external XY pen recorder are provided. Information is read out at a variable rate, many data points per second in featureless regions of the plot, and more slowly in regions where the pen movement is substantial. The linear velocity of the pen is maintained essentially constant, adjustable to match the speed capabilities of the recorder. Output voltages are nominally 0-5 volts.
Plug-ins:	Accepts Models 201-2, 204-A, 206-1, 206-2.
Length:	18-5/8" (47.3 cm)
Width:	11-1/4" (28.6 cm)
Height:	9-5/8" (24.5 cm)
Weight:	30 lbs. (13.5 kg)
Memory:	4,096 words by 12 bits. Data may be stored in all of the memory, in either half or in any quarter.
Power Requirements:	101, 115, 202, 230 volts ac ( $\pm 10\%$ ) 50-60 Hz ( $\pm 5\%$ ), 225 volt-amperes.
Display Expansion:	Digital expansions of X2, X4, X8, X16, X32 or X64, horizontal and/or vertical. Display may be automatically centered around intersection of the horizontal and vertical cursors.
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Plug-ins:	Accepts Models 201-2, 204-A, 206-1, 206-2.
Length:	19" (48.3 cm)
Width:	17" (43.2 cm)
Height:	9-5/8" (24.5 cm)
Weight:	46 lbs. (20.7 kg)

## SPECIFICATIONS

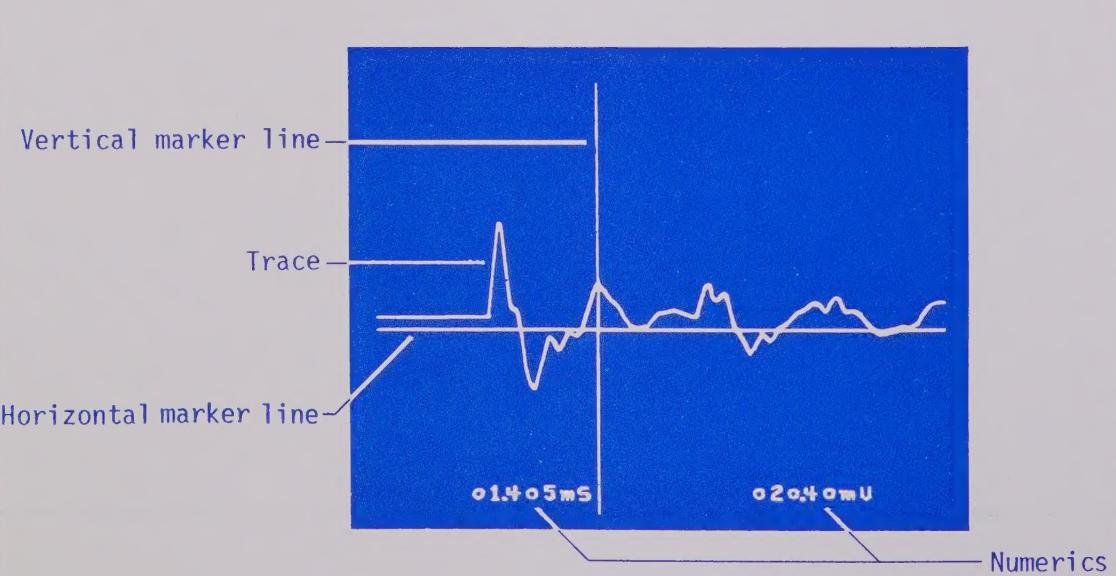
PARAMETER	MODEL 201	MODEL 204-A	MODEL 206
Maximum digitizing rate, MHz	0.2	20	2
Resolution, percent	0.025	0.4	0.025
Accuracy, percent of full scale	0.1	0.5	0.2
Linearity, percent of full scale	0.1	0.5	0.1
Maximum sensitivity, full scale range, mv	$\pm 10$	$\pm 100$	$\pm 100$
Maximum voltage range, volts	$\pm 40$	$\pm 40$	$\pm 40$
Safe overload at maximum sensitivity, volts	100	100	100
Safe overload at minimum sensitivity, volts	200	100	200
Amplifier bandwidth at maximum sensitivity, MHz	0.003	7	0.350 (Note 4)
Amplifier bandwidth at minimum sensitivity, MHz	0.035	7	1 (Note 5)
Sample time uncertainty, nsec	25	3	10
Noise, >100 Hz, percent of full scale, rms	0.02	0.4	0.02
Noise, 0.01 Hz to 100 Hz, $\mu$ v rms	2	100	25
Drift/ $^{\circ}$ C, percent of full scale	0.02	0.2	0.02
Input impedance, most sensitive amplifier settings, megohms	10,000	1	1
Input impedance, least sensitive amplifier settings, megohms	1	1	1
Input bias current, 25 $^{\circ}$ C ambient, pa	10	-	50
Common mode rejection ratio at maximum amplifier setting	$10^5$	(Note 1)	$10^4$
Common mode voltage range, percent of full scale range setting	(Note 3)	(Note 1)	(Note 3)
DC offset range, percent of full scale range setting	100	120	100
Sweep speed ranges for all plug-in units are in steps of 1, 2, 5, 10, .... times maximum speed setting in usec per point			
Maximum speed, time per point, usec	5	0.05	0.5
Minimum speed, time per point, seconds	200	20	200
Trigger sensitivity, % of full scale range, internal triggering	10	3	10
Trigger sensitivity, volts, external triggering	0.5	0.25	0.5
Trigger range, volts, external triggering	$\pm 5$	$\pm 5$	$\pm 5$
Trigger range, percent of full scale, internal triggering	100	100	100
Mid-signal trigger point, percent of one sweep	25	0-100	0-100
Number of data points per waveform, single channel used (Note 2)	2K, 4K	1K, 2K, 4K	1K, 2K, 4K
Number of data points per waveform, two channels used (Note 2)	1K, 2K	512, 1K, 2K	512, 1K, 2K

1. The Model 204-A plug-in utilizes single-ended amplifiers; common-mode rejection data do not apply.
2. The number of data points are selectable via the MEMORY selector switch.
3. Common mode voltage range, percent of full scale range setting is equal to 50% for the X4 settings and 150% for all other settings.
4.  $\pm 100\text{mV}$ ,  $\pm 200\text{mV}$ ,  $\pm 400\text{mV}$ ,  $\pm 4\text{V}$ ,  $\pm 40\text{V}$  ranges only.
5.  $\pm 1\text{V}$ ,  $\pm 2\text{V}$ ,  $\pm 10\text{V}$ ,  $\pm 20\text{V}$  ranges only.



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## MODEL 201 PLUG-IN

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### 1.0 REQUIREMENTS

#### 1.1 FUNCTION GENERATOR

1. Output: Square wave and Triangle wave with sync output.
2. Adjustable amplitudes:  $100 \text{ mV}_{\text{pp}} - 20 \text{ V}_{\text{pp}}$
3. Adjustable frequencies: 0.2 - 10 KHz

#### 1.2 DIGITAL MULTIMETER

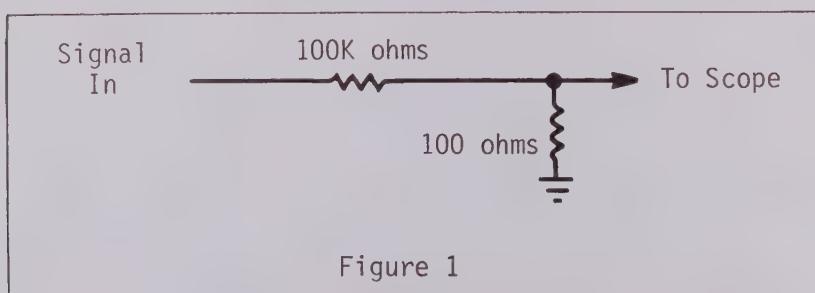
1. Resolution:  $4\frac{1}{2}$  or 5" digits
2. Accuracy: .005% of input, DC voltage

#### 1.3 TOOLS

1. Allen wrench: 5/64
2. Screwdrivers: Adjustment and Common types

#### 1.4 NETWORKS

1. Attenuator:



## 2.0 EXPLORER DISASSEMBLY

The bottom and left side covers must be removed to perform the alignment procedures.

**WARNING:** All power must be removed from the oscilloscope before continuing.

1. Remove the four bottom cover securing screws with a 5/64 Allen wrench and place the cover aside.
2. Remove the two left side cover securing screws with a 5/64 Allen wrench.  
Do not remove the cover except to make measurements and adjustments.

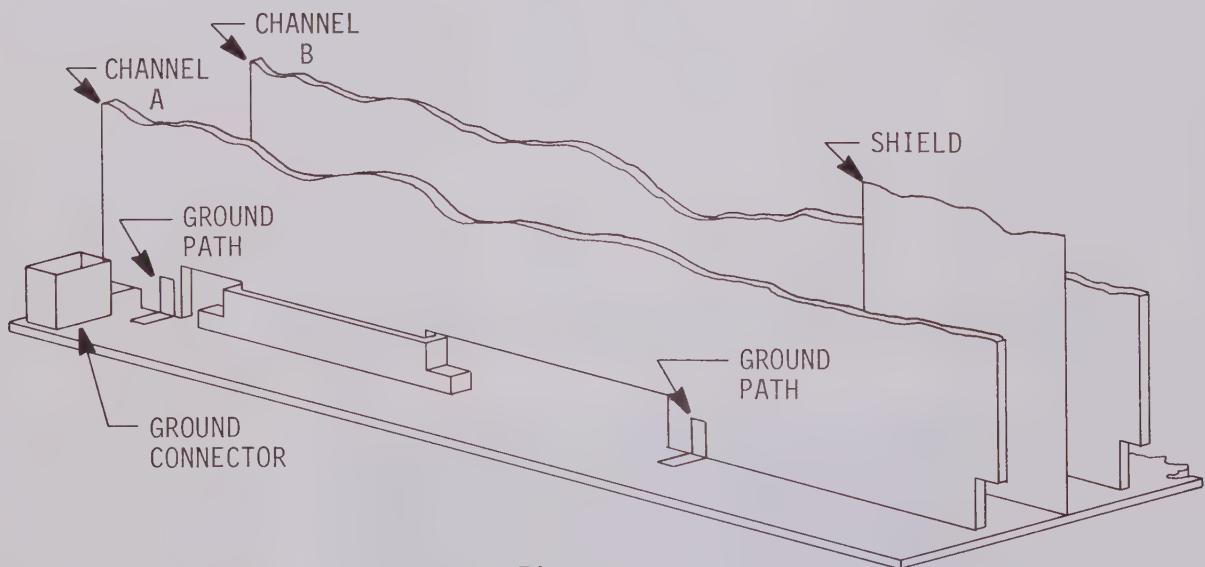


Figure 2

### 3.0 EXPLORER SET-UP PROCEDURE

The procedures have been outlined sequentially. Do not change any switch settings unless otherwise directed.

#### 3.1 MAIN FRAME CONTROLS

NOTE: Allow the oscilloscope to warm up for at least 15 minutes before proceeding with any alignment procedures.

Power On/Off:	ON
Vertical Expansion switch:	X32
Horizontal Expansion switch:	OFF
Autocenter switch:	ON
XY/YT switch:	YT
Memory switch:	ALL
Function switch:	RESET NUMBERS

#### 3.2 DISK DRIVE (Explorer III Models)

Track Protect switches:	Don't Care
Track Segment switch:	MAIN FRAME CONTROL (Full CCW)
Semi-Auto/Manual switch:	MANUAL

#### 3.3 201 PLUG-IN

Storage Control:	LIVE
Time Per Point:	5 uS
100 Hz Filter:	OFF
Protect 2H switch:	OFF
Channel A switch:	ON (Only if calibrating Channel A)
Channel B switch:	ON (Only if calibrating Channel B)
Trigger Mode:	NORM
Trigger Slope:	-DC
Trigger Source:	EXT
Trigger Threshold:	Adjust as required.
Range:	1V
Range Multiplier:	X1
(-) Input BNC switches:	GND

## 4.0 GAIN & OFFSET ADJUSTMENTS

An analog-to-digital converter (ADC) normally generates a series of incrementally increasing output voltages (digital outputs) when a gradually increasing voltage (analog signal) is applied to its input.

Discontinuities in the digital output signal will occur when misalignments of the Gain (Figure 3) and/or Offset (Figure 4) are present.

### 4.1 INITIAL SET-UP PROCEDURE

1. Connect the signal generator to the (+) input BNC of the channel to be aligned.
2. Signal Generator output: Triangle waveform
  - a. Adjust the waveform frequency for a one period display.
  - b. Adjust the waveform amplitude for a full screen display.

NOTE: It may be necessary to reposition the display by operating the paddle switch located adjacent to the Vertical Expansion switch.

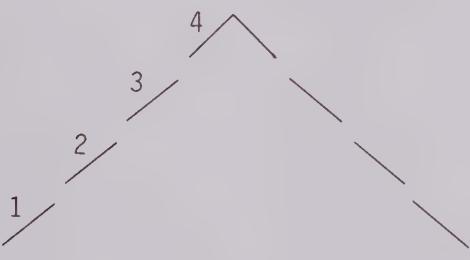


Figure 3 - Misaligned Gain

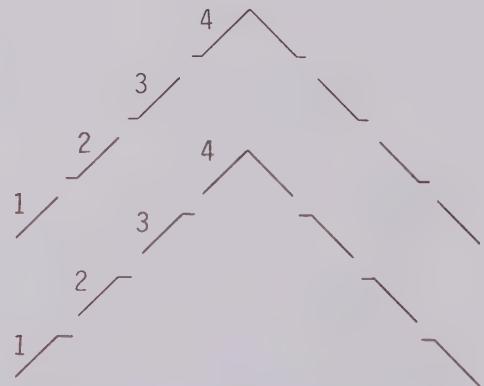


Figure 4 - Misaligned Offset

#### 4.2 GAIN & OFFSET TESTS

1. DC Level adjust: Full CCW
2. Slowly adjust the DC Level control toward the full CW position.
  - a. Observe the waveform for separations similar to those illustrated in Figure 3 (Misaligned Gain) and/or Figure 4 (Misaligned Offset).
    - If a linear waveform is observed, repeat Procedures 4.1 and 4.2 for Channel B and advance to Procedure 5.0 (Balance Adjust) if the waveform is linear.
    - If separations are observed, note which variation(s) (Gain and/or Offset) and then repeat Procedures 4.1 and 4.2 for Channel B before proceeding to Procedure 4.3.

#### 4.3 EXPLORER DISASSEMBLY

**WARNING:** All power must be removed from the oscilloscope before continuing with this procedure.

1. Unplug the Ground Connector. See Figure 2.

**NOTE:** It is not necessary to reconnect the ground after the module has been removed from the oscilloscope.

2. With a 5/64 Allen wrench, remove the four corner screws (located on the front panel) securing the input module and then slide the module halfway out of the oscilloscope.
3. Disconnect the ribbon cable from the rear of the input module.
4. Remove the input module and set it to the left side of the oscilloscope.

**WARNING:** Place the input module on a non-conductive workbench free of metal such as solder splashes.

5. Reconnect the ribbon cable to the input module.
6. Reapply power to the oscilloscope.

#### 4.4 GAIN ADJUSTMENTS

1. DC Level control: Adjust fully CCW
  - a. Slowly adjust the DC Level control in the CW direction until a full screen triangle waveform appears.
2. Slowly adjust trimpot R133 (Figure 5) until a separation appears on the waveform.
  - a. Readjust the trimpot for the best linear waveform.
3. Repeat Step 2. Use trimpot R111.
4. Repeat Step 2. Use trimpot R91.
5. Repeat Step 2. Use trimpot R78.
6. Repeat Step 2. Use trimpot R52.

NOTE: The DC Level control may require additional adjustment to isolate each separation as the trimpots are adjusted.

#### 4.5 OFFSET ADJUSTMENTS

NOTE: The input module slide rail may require removal if the OFFSET trimpot(s) on the channel "B" ADC board require adjustment.

**WARNING:** Remove all power from the oscilloscope before removing the rail.

1. DC Level control: Adjust fully CCW
  - a. Slowly adjust the DC Level control in the CW direction until a full screen triangle waveform appears.
2. Slowly adjust trimpot R125 (Figure 5) until a separation appears on the waveform.
  - a. Readjust the trimpot for the best linear waveform.
3. Repeat Step 2. Use trimpot R107.
4. Repeat Step 2. Use trimpot R85.
5. Repeat Step 2. Use trimpot R83.
6. Repeat Step 2. Use trimpot R51.

NOTE: The DC Level control may require additional adjustment to isolate each separation as the trimpots are adjusted.

#### 4.6 EXPLORER REASSEMBLY

**WARNING:** Remove all power from the oscilloscope before continuing.

1. Replace the input module slide rail if it was removed during Procedure 4.5.
2. Disconnect the ribbon cable from the rear of the input module.
3. Slide the input module halfway into the oscilloscope and reconnect the ribbon cable to the rear of the input module.
4. Slide the input module the rest of the way into the oscilloscope and reconnect the ground to the Ground Connector.

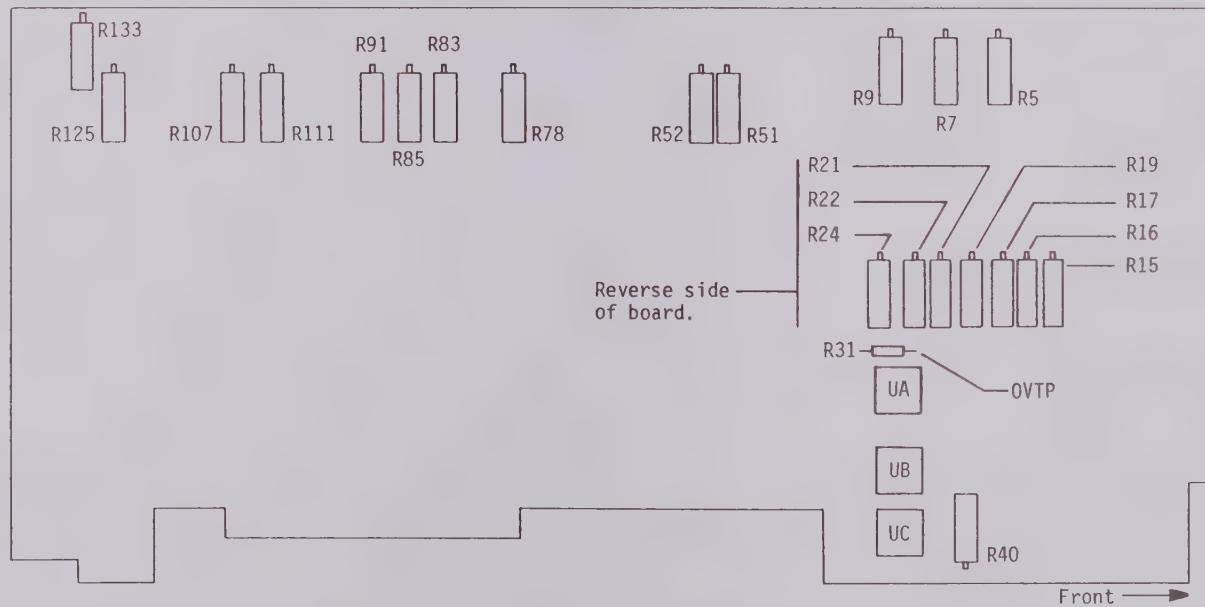


Figure 5

#### 4.7 GAIN & OFFSET ALIGNMENT CONFIRMATION

1. Replace the left side cover on the oscilloscope.
2. Apply power to the oscilloscope and allow it to warm up for 15 minutes.
3. With the triangle waveform still applied to the oscilloscope, slowly adjust the DC Level control from fully CCW to fully CW and observe the waveform for separations. Repeat for the other channel.
  - a. Repeat Procedure 4.0 thru 4.7 if necessary.
4. Remove the signal generator from the input BNC.

#### 4.8 SUMMARY OF GAIN & OFFSET TRIMPOTS

STAGE	GAIN TRIMPOTS	OFFSET TRIMPOTS
5	R133	R125
4	R111	R107
3	R91	R85
2	R78	R83
1	R52	R51

### 5.0 BALANCE ADJUSTMENTS

#### 5.1 10 mV & 100 mV RANGE BALANCE

1. Range: 10 mV
2. Range Multiplier: X1
3. Vertical Expansion switch: OFF
4. Trigger Source: EXT
5. SIG/GND switches: GND
6. DC Level control: Adjust trace to center of screen.
7. Multimeter range: 0-10 mVDC
8. Connect multimeter to OVTP. (See Figure 5)
  - a. Adjust R22 for a 0 volt reading.
9. Vertical Expansion switch: X64
10. Autocenter switch: ON then OFF

11. Range switch: 100 mV
  - a. Observe trace for vertical shift.
  - b. Adjust trimpot R21 (Figure 5) until the trace is aligned with the horizontal marker line.

NOTE: Make the first adjustment without vertical expansion if the shift is excessive.

12. Repeat Steps 10 thru 12 until minimum shifting is achieved.

## 5.2 X1 & X4 MULTIPLIER BALANCE

1. Range Multiplier switch: X4
2. Autocenter switch: ON then OFF
3. Range Multiplier switch: X1
  - a. Observe trace for vertical shift.
  - b. Adjust trimpot R40 (Figure 5) until the trace is aligned with the horizontal marker line.
4. Repeat Steps 1 thru 4 until minimum shifting is achieved.

## 6.0 COMMON MODE ADJUSTMENT

1. Range Multiplier switch: X1
2. Range switch: 1V
3. Vertical Expansion switch: OFF
4. Signal Generator output: 100 Hz Square wave
5. (+) Input BNC switch: SIG
6. Apply square wave to the (+) input BNC.
  - a. Adjust for a 3/4 full screen display.

NOTE: The Offset and Trigger Level controls may require adjustment.

7. (-) Input BNC switch: SIG
8. Apply same square wave signal to the (-) input BNC.  
NOTE: The signal must be applied to both the (+) and (-) input BNCs.
9. Autocenter switch: ON
10. Vertical Expansion switch: X64
11. Adjust trimpot R24 (Figure 5) for the best straight line.

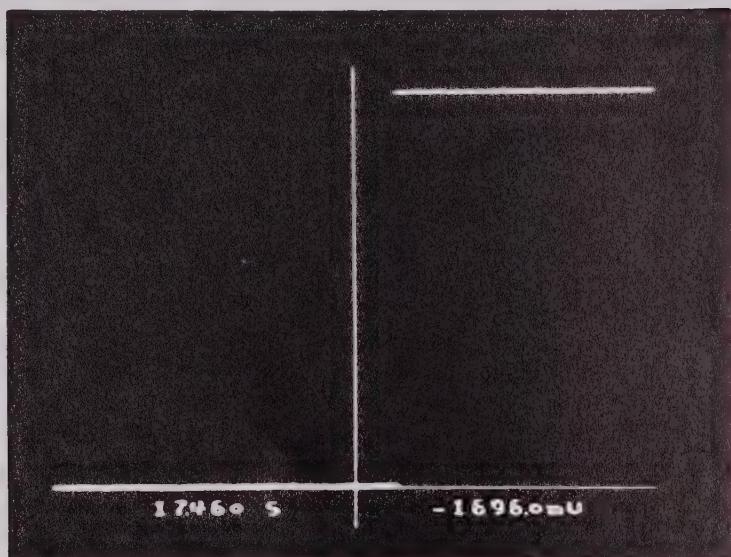
WARNING: Use an insulated adjustment screwdriver to avoid shorting across components.

12. Vertical Expansion switch: OFF

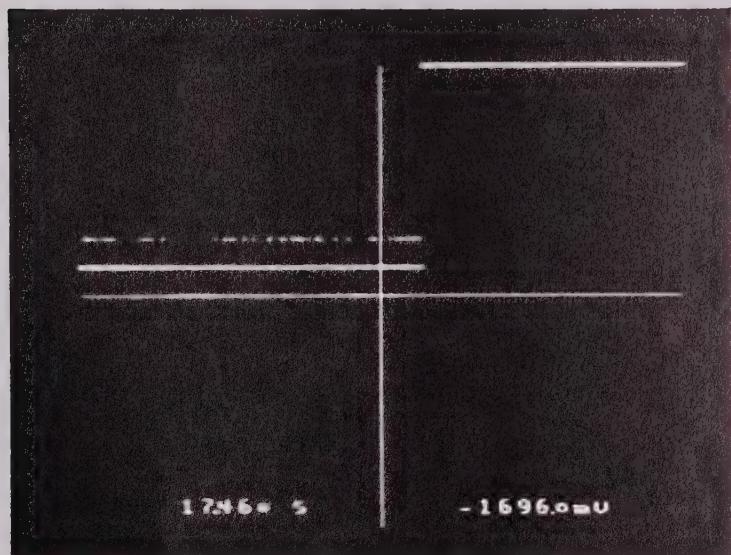
## 7.0 GAIN CALIBRATION

### 7.1 1V RANGE

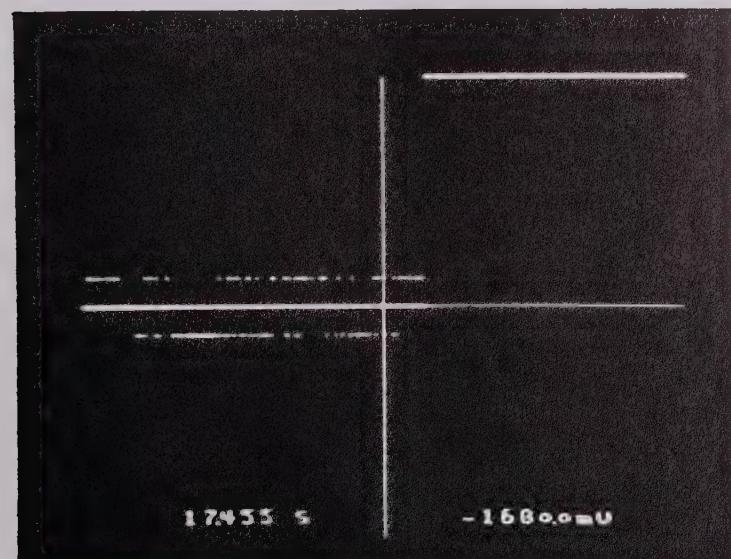
1. Memory switch: ALL
2. Filter switch: ON
3. Time Per Point: 2 mS
4. Autocenter switch: OFF
5. Range Multiplier: X1
6. Range: 1V
7. Signal Generator output: 0.2 Hz Square wave
  - a. Adjust for a 3/4 full screen display.  
NOTE: The Offset and Trigger Level controls may require adjustment.
8. Multimeter range: 0-2 VDC
9. Apply same square wave signal to the multimeter.
10. Record both (+) and (-) multimeter readings and ADD absolute values to obtain the peak-to-peak voltage.



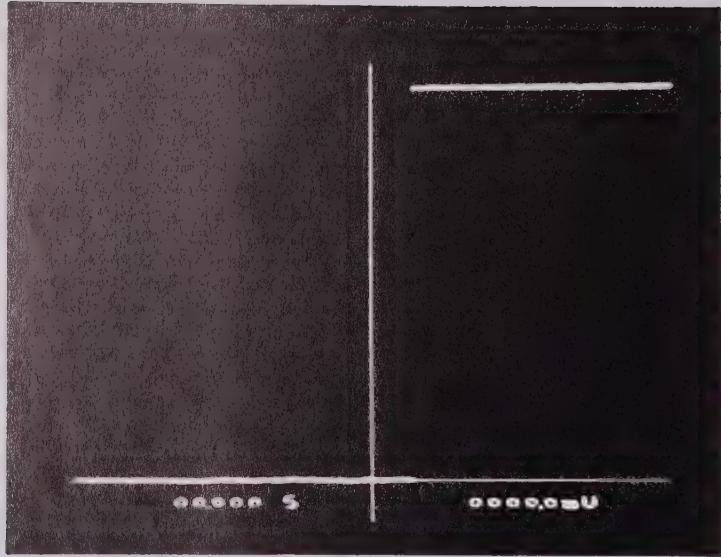
11. Depress the HOLD NEXT pushbutton.
  - a. Wait until the waveform has been stored. (Hold Last led lit only.)



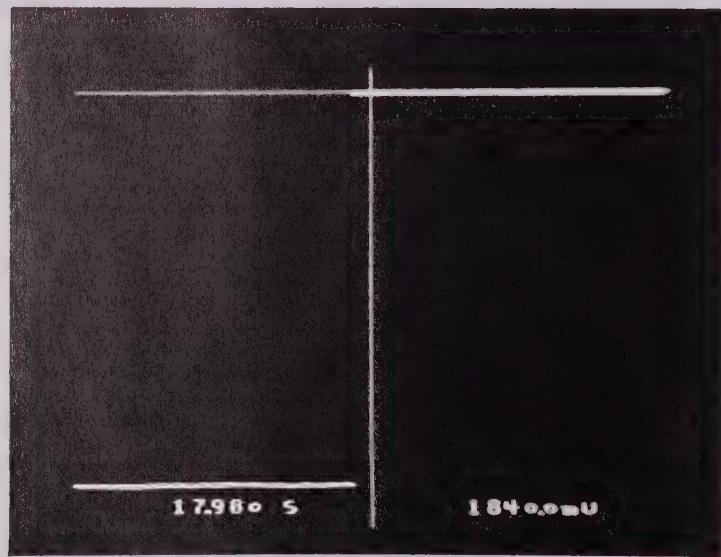
12. Autocenter switch: Autocenter
13. Vertical Expansion switch: X64



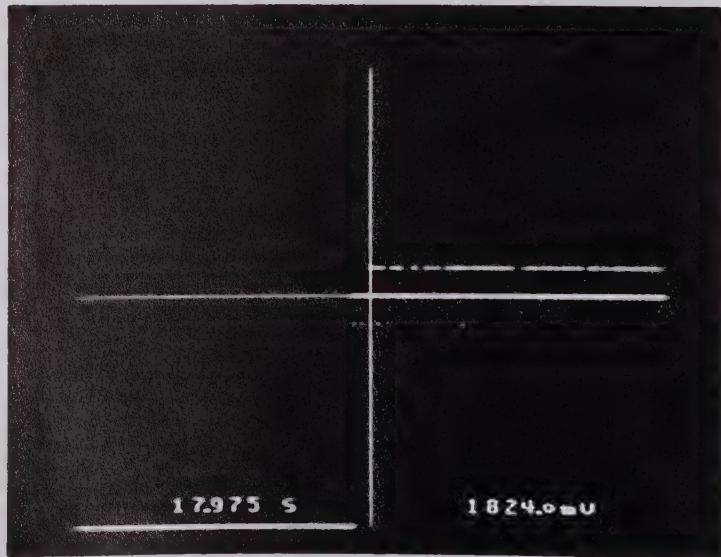
14. Several levels of data points will be displayed due to a certain amount of "noise." Select the level with the majority of data points by moving the horizontal marker line.



15. Vertical Expansion switch: OFF
16. Function switch: RESET
17. Depress the Execute button.
  - a. Time and voltage numerics indicate zero.



18. Position the vertical marker line to the opposite peak of the waveform.



19. Vertical Expansion switch: X64
20. Select the level with the majority of data points.
  - a. Record the peak-to-peak voltage displayed on the oscilloscope.

21. Compute the Percent Error.

a. The percent error should be less than 0.05%.

$$\text{Percent Error} = \left| \frac{\text{Multimeter } (V_{pp}) - \text{Scope } (V_{pp})}{\text{Multimeter } (V_{pp})} \right| \times 100$$

22. Adjust R9 (Figure 5).

a. CW to decrease. CCW to increase.

23. Depress the LIVE pushbutton.

24. Vertical Expansion switch: OFF

25. Autocenter switch: OFF

26. Repeat Procedure 7.1, Steps 11 thru 26 until percent error is less than 0.05%.

## 7.2 2V, 4V, +10V & 100 mV RANGES

Repeat Procedure 7.1 (1V Range) for each of the Range Calibrations and substitute the steps listed in the table below.

RANGE TO BE CALIBRATED	STEP 5	STEP 6	STEP 8	STEP 22
	Range Multiplier	Range	Multimeter Range	Trimpot
2V	X2	1V	0-4V	R7
4V	X4	1V	0-10V	R5
+10V	X1	10V	0-20V	* R15
100 mV	X1	100 mV	0-200 mV	R19

\* NOTE: Adjust R15 (Step 22) CW to increase gain and CCW to decrease gain.

### 7.3 10 mV RANGE

Repeat Procedure 7.1 using the following substitutions:

1. Range: 10 mV (Step 6)
2. Apply the square wave signal to the (+) input BNC using the Attenuator network illustrated in Figure 1.
  - a. Adjust for a 3/4 full screen display.
3. Multimeter Range: 0-20 mV (Step 8)
4. Trimpot: R17 (Step 22)

### 7.4 -10V RANGE

1. Remove the Attenuator network.
2. Range: 10V
3. Apply square wave signal to the (+) input BNC.
  - a. Adjust for a 3/4 full screen display.
4. Apply same square wave signal to the (-) input BNC.  
NOTE: The signal must be applied to both the (+) and (-) input BNCs.
5. Autocenter switch: ON
6. Vertical Expansion switch: X64
7. Adjust trimpot R15 (Figure 5) for the best straight line.
8. Vertical Expansion switch: OFF



## DISPLAY ALIGNMENT

## TRIM POTS ACCESS

The display trim pots are accessible from the bottom of the oscilloscope. Refer to Figure A-1.

**WARNING:** High voltages exist in the oscilloscope. Use care during the following procedures.

## ALIGNMENT PROCEDURE

It is recommended that the following alignment procedure be followed in the sequence as listed. Perform the alignment(s) if required.

1. Ground all (+) and (-) input BNC's.
2. Switch the FUNCTION selector to the ERASE position (spring loaded) and depress the EXECUTE pushbutton.
3. HORIZONTAL ROTATE: Rotates the entire display with the screen center acting as the pivot point.
  - a. Adjust until the vertical marker line is straight up and down.
4. VERTICAL ROTATE: Rotates the entire display with the left side of the screen acting as the pivot point.
  - a. Adjust until the horizontal marker line is level.
5. HORIZONTAL CENTER: Positions the display either left or right.
  - a. Adjust until the horizontal marker line is evenly centered on the screen.
6. HORIZONTAL GAIN: Expands or contracts the display in the horizontal plane.
  - a. Adjust until both ends of the horizontal marker line are approximately 3/16" from the sides of the screen.
7. VERTICAL CENTER: Positions the display either up or down.
  - a. Adjust until the vertical marker line is approximately 1/4" from the top of the screen.
8. VERTICAL GAIN: Expands or contracts the display in the vertical plane.
  - a. Adjust until the vertical marker line is approximately 1/8" from the bottom of the screen.
  - b. Repeat Step 7 and 8 until the vertical marker line is approximately 1/4" from the bottom of the screen.

9. ASTIGMATISM: Adjust the sharpness of the display and is used in conjunction with the FOCUS adjustment located on the rear panel.
- Adjust the Astigmatism trimpot for a sharp vertical marker line.
  - Adjust the FOCUS control for a sharp horizontal marker line.

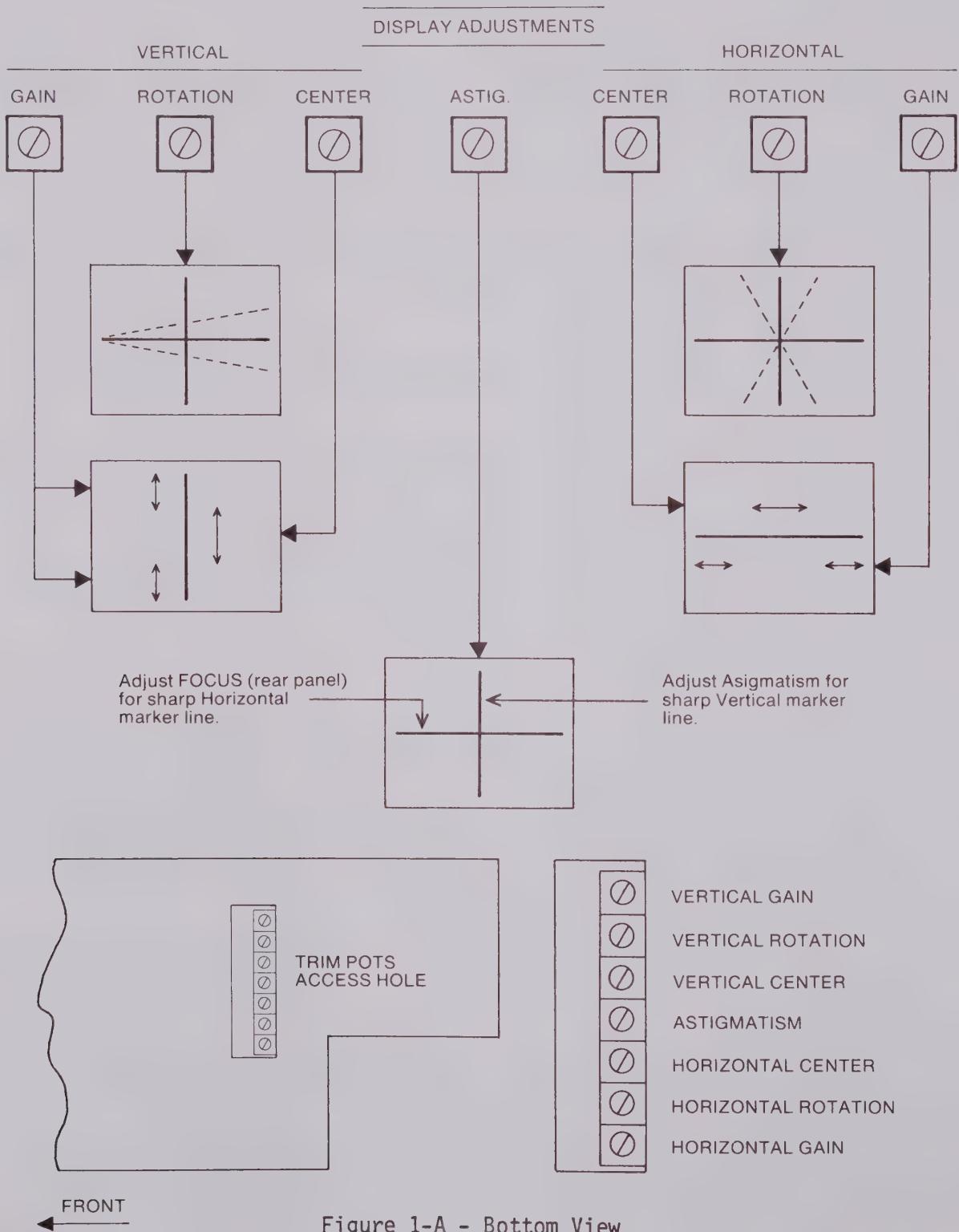


Figure 1-A - Bottom View

## FOCUS AND INTENSITY CONTROLS

The Focus and Intensity controls are located on the rear panel.

- FOCUS: The Focus control is used in conjunction with the Astigmatism trimpot described above in Step 9.
- INTENSITY: The Intensity control brightens or darkens the display. This control may be adjusted, when using the scope camera, to permit optimum results while capturing displays on film.

## MAINTENANCE

The following guidelines should be observed when cleaning the Explorer.

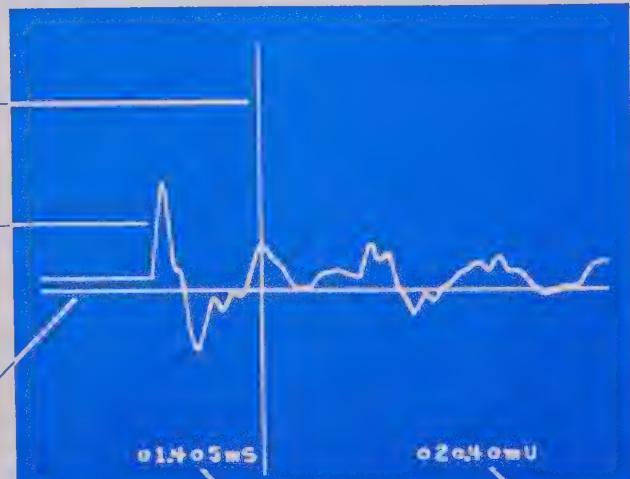
- SCOPE FACE: Clean the display face with a slightly damp, soft cloth.
- CABINET: Clean the external surfaces with a slightly damp, soft cloth using a mild detergent.
- AIR FILTER: The dust filter on the rear panel should be inspected at regular intervals and cleaned whenever an accumulation of dust appears.

To clean the filter: Remove the four retaining screws, remove the surface dust with either compressed air or a soft-bristle brush. Reinstall the filter.





Vertical marker line—



Horizontal marker line—

Numerics

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MODEL 204-A PLUG-IN

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1.0 REQUIREMENTS

1.1 FUNCTION GENERATOR

1. Output: Square wave
2. Adjustable amplitudes:  $100 \text{ mV}_{\text{pp}} - 20 \text{ V}_{\text{pp}}$
3. Adjustable frequencies: 0.2 Hz - 20 MHz

1.2 DIGITAL MULTIMETER

1. Resolution:  $4\frac{1}{2}$  or  $5\frac{1}{2}$  digits
2. Accuracy: .05% of input, DC Voltage

1.3 ANALOG OSCILLOSCOPE

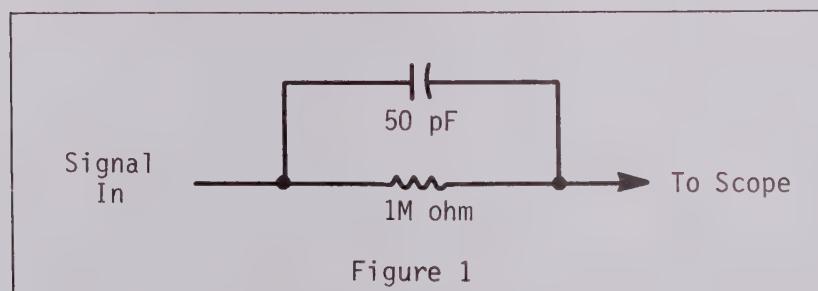
1. Bandwidth: 100 MHz

1.4 TOOLS

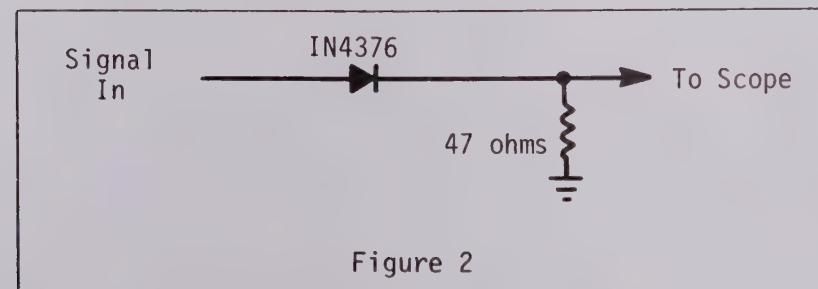
1. Allen wrench: 5/64
2. Screwdriver: Adjustment type

1.5 NETWORKS

1. Input capacitance:



2. Frequency compensation:



## 2.0 EXPLORER DISASSEMBLY

The left side cover must be removed to perform the alignment procedures.

**WARNING:** All power must be removed from the oscilloscope before continuing.

1. Remove the two left side cover securing screws with a 5/64 Allen wrench.  
Do not remove the cover except to make measurements and adjustments.

## 3.0 EXPLORER SET-UP PROCEDURE

The procedures have been outlined sequentially. Do not change any switch settings unless otherwise directed.

**NOTE:** The procedures should be completed with the digitizer shields in place and the plug-in front panel fastened to the frame. Some of the adjustments will be affected if the shields are removed and then reinstalled after the alignments.

### 3.1 MAIN FRAME CONTROLS

**NOTE:** Allow the oscilloscope to warm up for at least 15 minutes before proceeding with any alignment procedures.

Power On/Off:	ON
Vertical Expansion:	OFF
Horizontal Expansion:	OFF
Autocenter switch:	OFF
XY / YT switch:	YT
Function switch:	RESET NUMBERS
Memory switch:	ALL

### 3.2 DISK DRIVE (Explorer III Models)

Track Protect switches:	Don't Care
Track Segment switch:	Main Frame Control (Full CCW)
Semi-Auto/Manual switch:	MANUAL

### 3.3 204-A PLUG-IN

Storage Control: LIVE  
Retain Reference: ALL OFF (Down)  
Time Per Point: 500 nS  
Volts Full Scale: 100mV  
Filter: FULL  
On/Off: ON (For channel to be calibrated only)  
DC/AC: DC  
Offset: Center of Screen

#### Trigger Mode

a. Auto/Norm: AUTO  
b. Cursor: Out  
c. Lock: Out

#### Trigger Coupling

a. AC/DC: DC  
b. HF REJ/NORM: NORM

#### Trigger Source (See Note 1)

a. CH A / CH B: Don't Care  
b. Int/Ext: EXT

Trigger Level: Adjust as required to stabilize trace.

Trigger Slope: (-)

NOTE 1: Connect the function generator sync output to the external trigger input BNC.

#### 4.0 VOLTAGE CHECK

1. Multimeter range: 0-20 VDC
2. Connect multimeter to -2VTP. (See Figure 3)
  - a. Adjust R9 for -1.98 VDC to -2.02 VDC.
3. Connect multimeter to +6VTP. (See Figure 3)
  - a. Adjust R40 for +5.94 VDC to +6.06 VDC.

CAUTION: Use insulated probe on +6VTP to avoid shorting to heatsink.

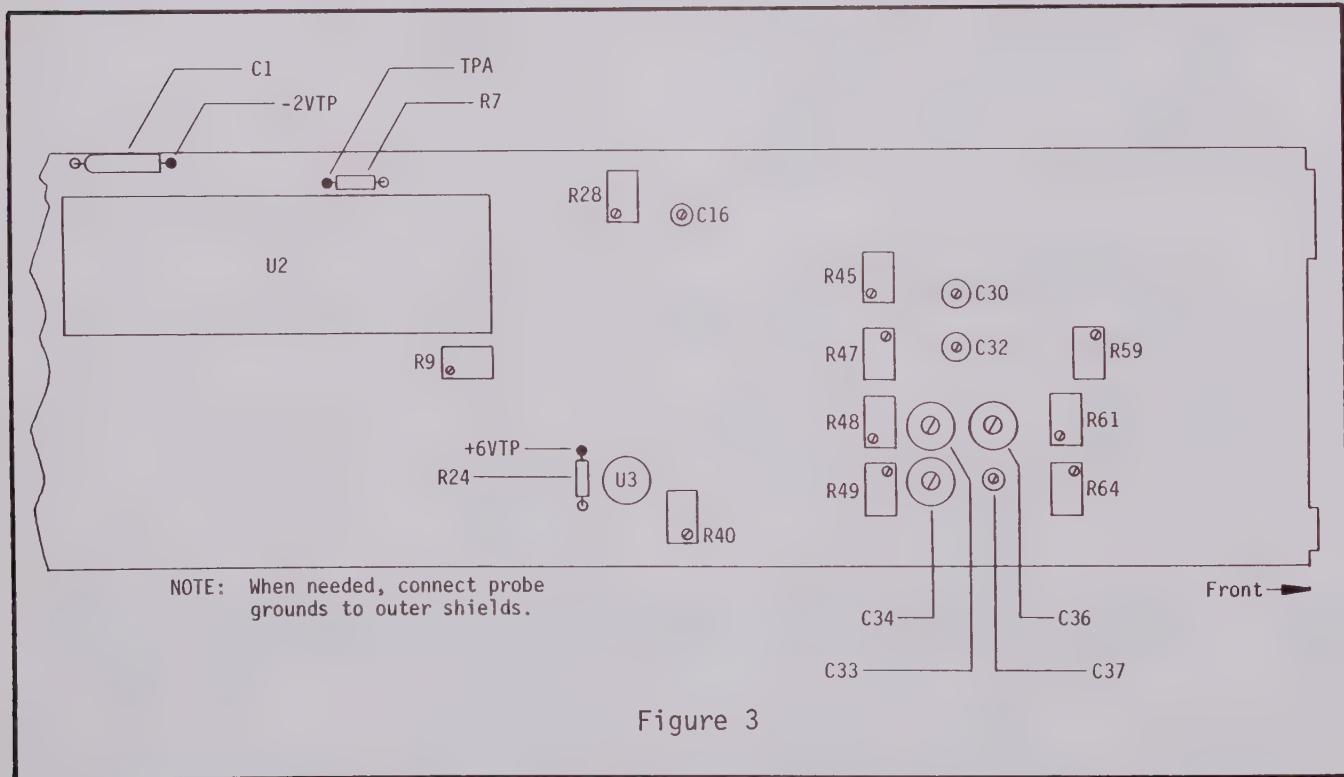


Figure 3

## 5.0 INPUT RESISTANCE CHECK

1. Multimeter range: 2 Megohms
2. Connect multimeter to input BNC.
  - a. Record the resistance. (1 Megohm  $\pm$  1%)
3. Volts Full Scale switch: 1V
  - a. Adjust R48 for same reading as recorded in Step 2,  $\pm$  1%.
4. Volts Full Scale switch: 10V
  - a. Adjust R49 for same reading as recorded in Step 2,  $\pm$  1%.
5. Disconnect multimeter from oscilloscope.

## 6.0 BALANCE ADJUSTMENT

1. Ground input BNC.
2. Volts Full Scale switch: 100 mV
3. Filter switch: 1 MHz
4. Vertical Expansion switch: X16
5. Autocenter switch: ON, then OFF
6. Volts Full Scale switch: Switch between 100, 200 and 400 mV ranges.
  - a. Observe trace for vertical shift.
  - b. Adjust R59 until trace is aligned with the horizontal marker line.  
NOTE: Make the first adjustment without vertical expansion if the shift is excessive.
7. Repeat Steps 5 thru 6 until minimum shifting is achieved.
8. Volts Full Scale switch: Switch between all ranges.
  - a. Observe trace for vertical shift.
  - b. Adjust R59 if necessary for minimum shifting.
9. Vertical Expansion switch: OFF
10. Disconnect the ground from the input BNC.

## 7.0 AMPLIFIER RESPONSE

1. Volts Full Scale: 100 mV
2. Filter switch: FULL
3. Signal Generator output: 100 kHz Square wave (20 MHz or better bandwidth)
4. Apply square wave to input BNC.
  - a. Adjust for a 3/4 full screen display.
- NOTE: The Offset and Trigger Level controls may require adjustment.
5. Analog oscilloscope: CHANNEL 1 - 0.5 V/Div.  
CHANNEL 2 - 50 mv/Div. Inverted  
DC Coupling  
0.05 uSec/Div.  
Internal Trigger, (-) slope
6. Connect analog oscilloscope to output of signal generator and to test point TPA on the digitizer board. (See Figure 3).
7. Adjust C16 (Figure 3) until the slopes of the signal generator output and test point TPA are identical. (See Figures 4 and 5.)

CAUTION: Turning C16 too far in the counter-clockwise direction may cause the adjustment screw to fall out of the variable capacitor.

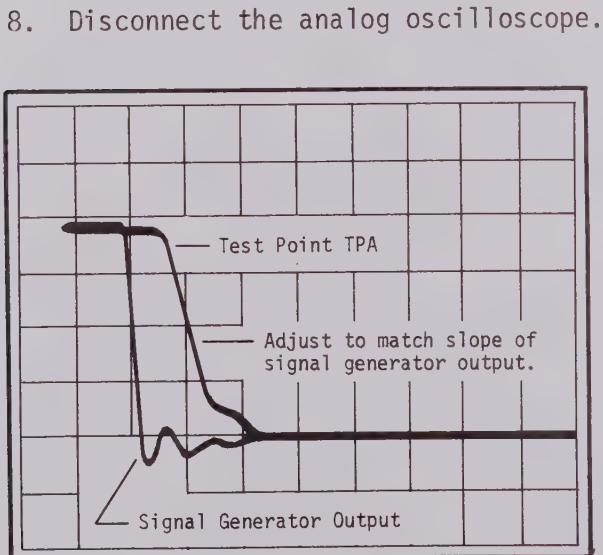


Figure 4 - Unacceptable Response

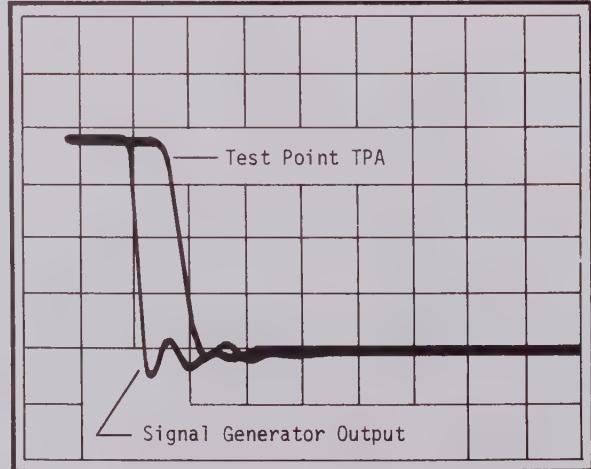
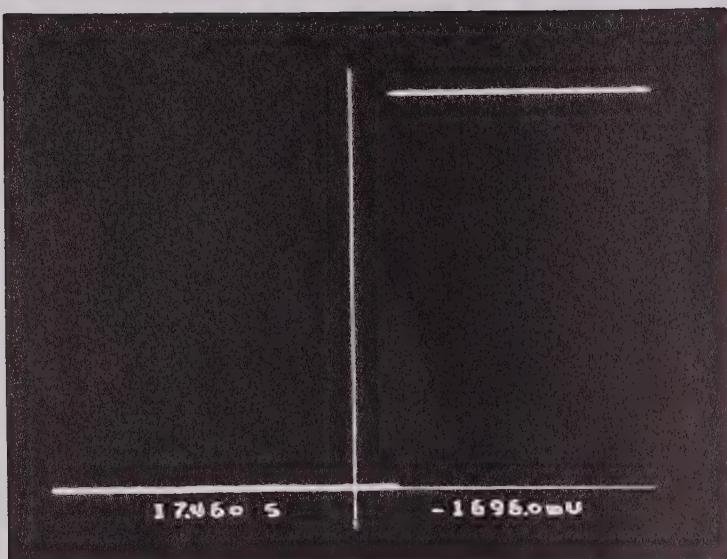


Figure 5 - Acceptable Response

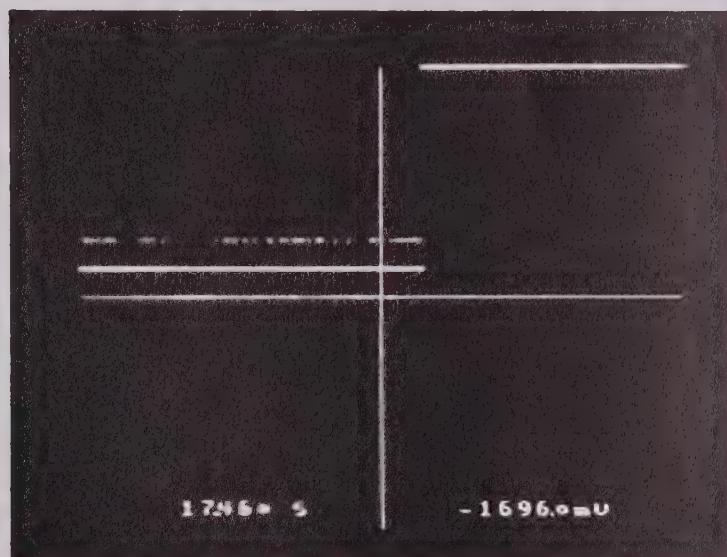
## 8.0 GAIN CALIBRATION

### 8.1 100 mV RANGE

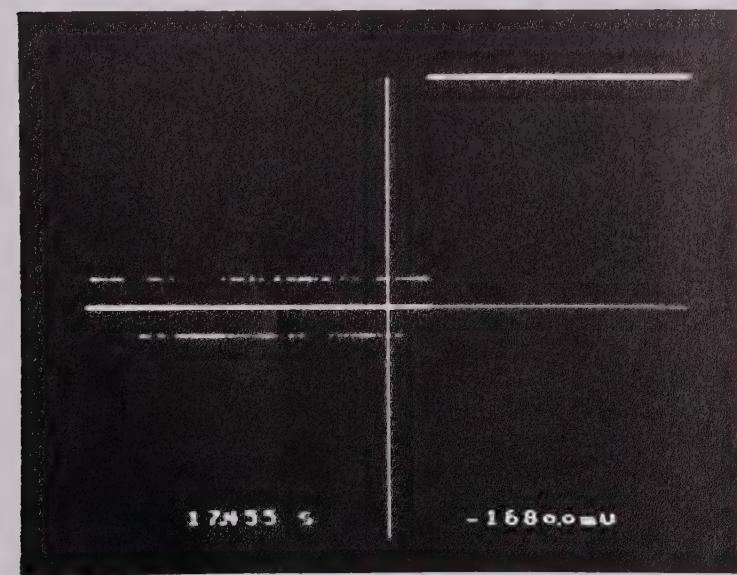
1. Volts Full Scale switch: 100 mV
2. Memory switch: Q1
3. Autocenter switch: OFF
4. Filter switch: 1 MHz
5. Time Per Point: 5 mS
6. Signal Generator output: 0.2 Hz Square wave
  - a. Adjust for a 3/4 full screen display.  
NOTE: The Offset and Trigger Level controls may require adjustment.
7. Multimeter range: 0-200 mVDC
8. Apply the same square wave signal to the multimeter.
9. Record both (+) and (-) multimeter readings and ADD absolute values to obtain the peak-to-peak voltage.



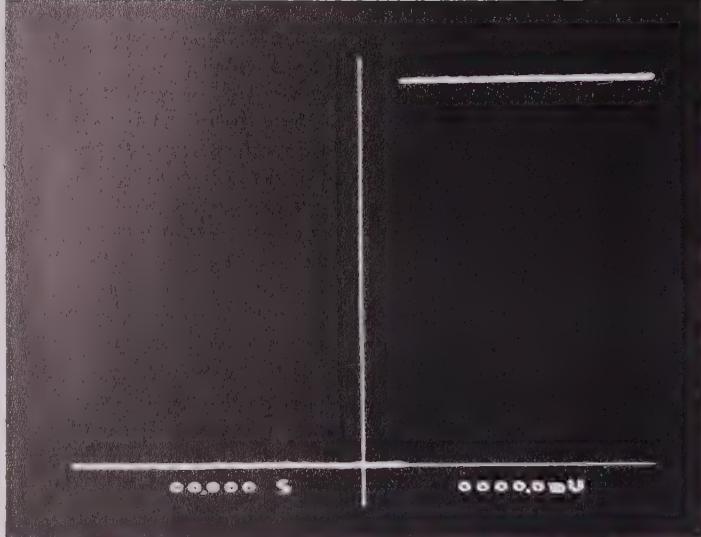
10. Depress the HOLD NEXT pushbutton.
  - a. Wait until the waveform has been stored. (Hold Last led lit only)

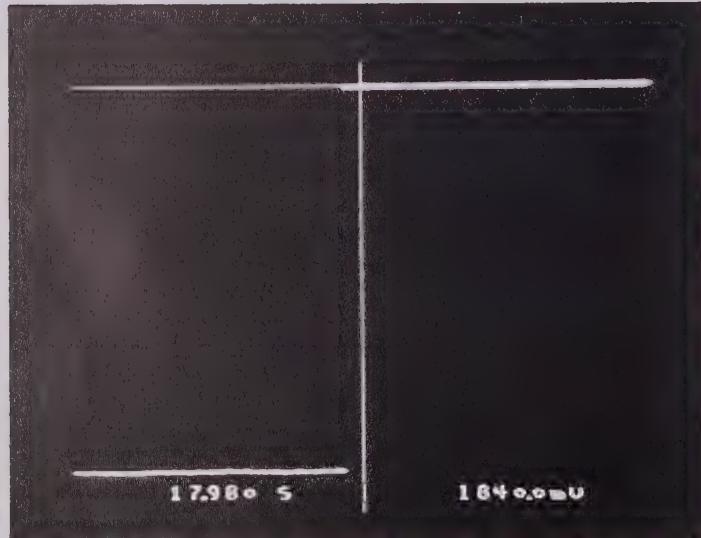


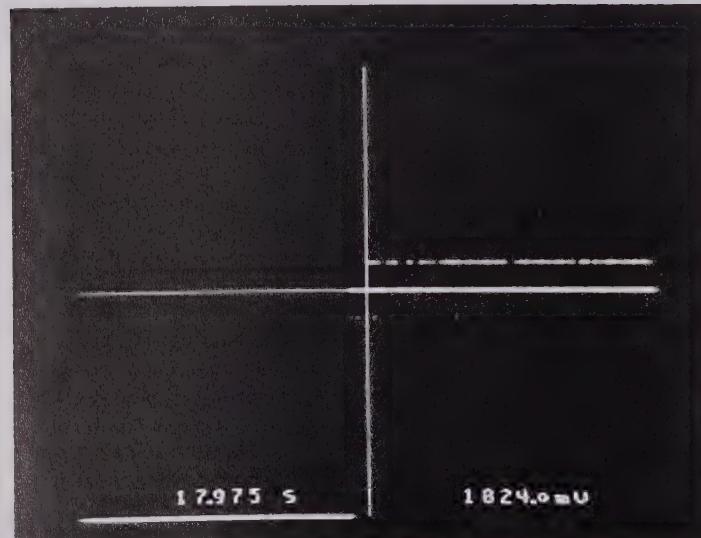
11. Autocenter switch: ON
12. Vertical Expansion switch: X16



13. Several levels of data points will be displayed due to a certain amount of "noise." Select the level with the majority of data points by moving the horizontal marker line.

- 
14. Vertical Expansion switch: OFF
  15. Function switch: RESET
  16. Depress the Execute button.
    - a. Time and voltage numerics indicate zero.

- 
17. Position the vertical marker line to the opposite peak of the waveform.

- 
18. Vertical Expansion switch: X16
  19. Select the level with the majority of data points.
    - a. Record the peak-to-peak voltage displayed on the oscilloscope.

21. Compute the Error.

$$\text{Error} = \text{Multimeter } (V_{pp}) - \text{Scope } (V_{pp}) < 1 \text{ mV}$$

22. Adjust R28 (Figure 3).

a. CW to increase, CCW to decrease.

23. Depress the LIVE pushbutton.

24. Repeat 8.1, Steps 10 thru 23 until Error value computed in Step 21 is met.

25. Vertical Expansion switch: OFF

26. Autocenter switch: OFF

## 8.2 200 mV, 400 mV, 1V & 10V RANGE CALIBRATIONS

Repeat Procedure 8.1 (100 mV Range Calibration) for each of the Range Calibrations and substitute the steps and values listed in the table below.

RANGE TO BE CALIBRATED	SUBSTITUTIONS			
	Step 1 Volts Full Scale	Step 6 Multimeter Range	Step 21 Error Value	Step 22 Trimpot
200 mV	200 mV	0-400 mVDC	2 mV	R47
400 mV	400 mV	0-800 mVDC	4 mV	R45
1V	1V	0-2 VDC	10 mV	R61
10V	10V	0-20 VDC	0.1 V	R64

NOTE: Disconnect the multimeter when the Range Calibrations have been completed.

---

## 9.0 200 mV RANGE FREQUENCY COMPENSATION

---

1. Vertical Expansion switch: OFF
2. Filter switch: FULL
3. Memory switch: ALL
4. Time Per Point: 50 nS
5. Volts Full Scale switch: 200 mV
6. Signal Generator output: 100 kHz Square wave
7. Apply square wave to the input BNC using the frequency compensation network illustrated in Figure 2.
  - a. Adjust for a 3/4 full screen display.
8. Vertical Expansion switch: X4
9. Horizontal Expansion switch: X16
10. Autocenter switch: ON
  - a. Adjust the Offset for minimum noise.
11. Adjust C32 for the best negative cycle response. (See Figures 3 & 6 thru 8).

---

## 9.1 400 mV, 1V, 2V, 4V & 10V RANGE FREQUENCY COMPENSATION

---

Repeat Procedure 9.0 (200 mV Range Frequency Compensation) for each of the ranges and substitute the steps listed in the table below.

NOTE: The 200 mV, 400 mV, 2V and 4V compensation procedures must be repeated after the entire procedure has been completed. Repeat these procedures until an optimum response for all four ranges has been achieved.

RANGE TO BE CALIBRATED	STEP 4	STEP 5	STEP 6	STEP 11
	Time Per Point	Volts Full Scale	Signal Generator	Capacitor
400 mV	50 nS	400 mV	100 KHz	C30
1V	500 nS	1V	10 KHz	C36
2V	500 nS	2V	10 KHz	C32
4V	500 nS	4V	10 KHz	C30
10V	500 nS	10V	10 KHz	C37

NOTE: Place the Horizontal and Vertical Expansion switches to "OFF" when the Range Frequency Compensations have been completed.

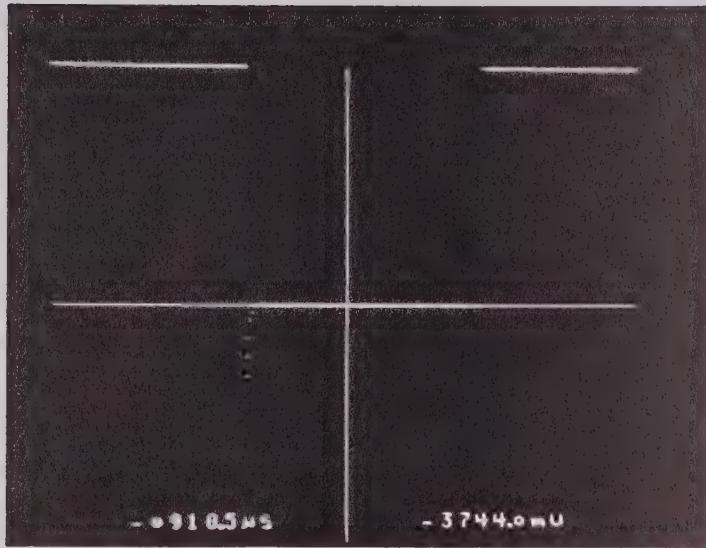


Figure 6 - Negative square wave cycle with undershoot.

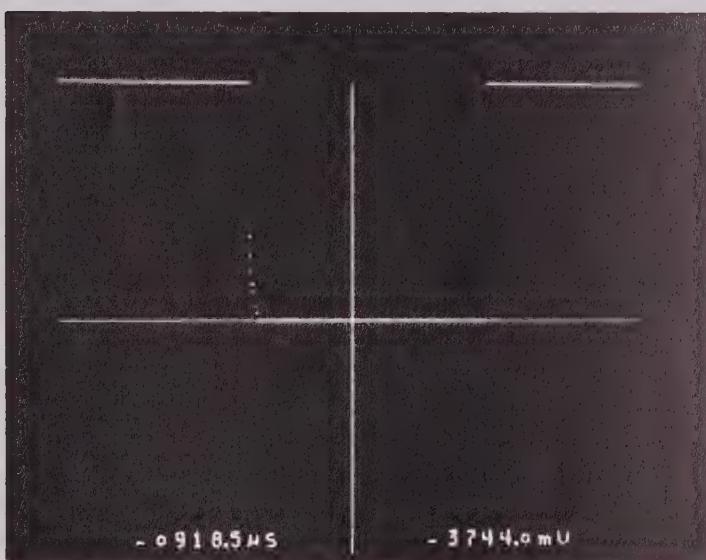


Figure 7 - Negative square wave cycle with overshoot.

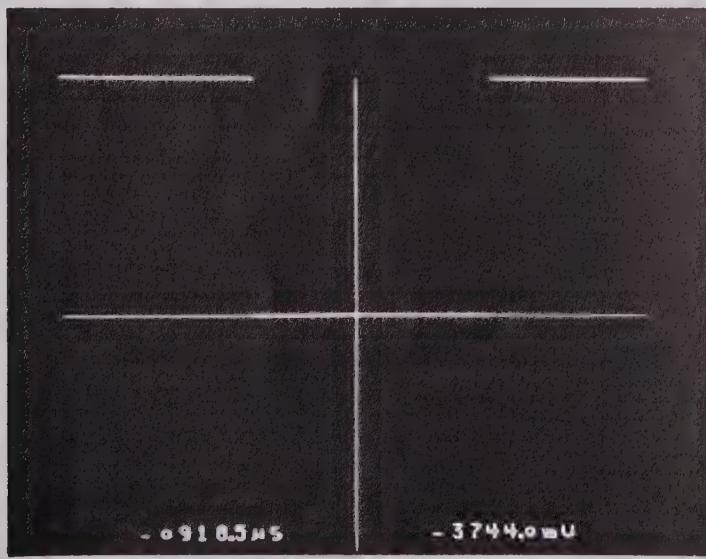


Figure 8 - Best possible negative square wave cycle. One or two data points may be present.

## 10.0 INPUT CAPACITANCE

The series number of the Model 204-A Digitizer Board must be determined in order that the appropriate procedure will be selected.

1. Locate the Digitizer board part number as illustrated in Figure 9
  - If the last two digits of the part number is -02 (or less), perform Procedure 10.1
  - If the last two digits of the part number is -03 (or greater), perform Procedure 10.2

### 10.1 SERIES -02 OR LOWER

1. Volts Full Scale: 1V
2. Time Per Point: 50 nS
3. Signal Generator output: 10 kHz Square wave
4. Apply the square wave to the input BNC using the capacitance network illustrated in Figure 1.
  - a. Adjust for a 3/4 full screen display.
5. Vertical Expansion switch: X4
6. Horizontal Expansion switch: X2
7. Adjust C33 for the best square wave response.
8. Vertical Expansion switch: OFF
9. Volts Full Scale: 10V      Note: Repeat Procedure 9.0 & 9.1  
(Frequency Compensation)
10. Repeat Procedure 10.1, Steps 2 thru 7.      after completing this procedure  
a. Substitute capacitor C34 in Step 7.      to verify proper alignment.

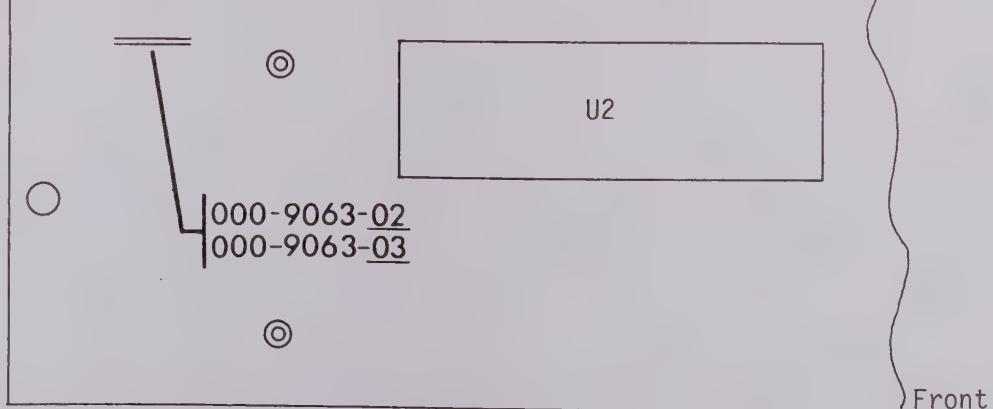


Figure 9 - Digitizer Board

## 10.2 SERIES -03 OR GREATER

1. Volts Full Scale: 100 mV
2. Time Per Point: 50 nS
3. Signal Generator output: 10 kHz Square wave
4. Apply the square wave to the input BNC using the capacitance network illustrated in Figure 1.
  - a. Adjust for a 3/4 full screen display.
5. Horizontal Expansion switch: X2
6. Retain Reference switches: 1 & 3 (UP), 2 & 4 (DOWN)
7. Volts Full Scale: 1V
  - a. Adjust output of the signal generator for a 3/4 full screen display.
8. Vertical Expansion switch: X4
9. Offset control: Adjust until retained waveform and "live" waveform are superimposed.
10. Adjust C33 until the slopes of the "live" waveform matches the slopes of the retained waveform.
11. Vertical Expansion switch: OFF
12. Volts Full Scale: 10V
  - a. Adjust output of the signal generator for a 3/4 full screen display, or as large a signal amplitude obtainable from the signal generator.
13. Vertical Expansion switch: X8
14. Adjust C34 until the slopes of the "live" waveform matches the slopes of the retained waveform.
15. Horizontal Expansion switch: OFF
16. Retain Reference switch: All Down

NOTE: Repeat Procedure 9.0 & 9.1 (Frequency Compensation) after completing this procedure to verify proper alignment.

## DISPLAY ALIGNMENT

## TRIM POTS ACCESS

The display trim pots are accessible from the bottom of the oscilloscope. Refer to Figure A-1.

**WARNING:** High voltages exist in the oscilloscope. Use care during the following procedures.

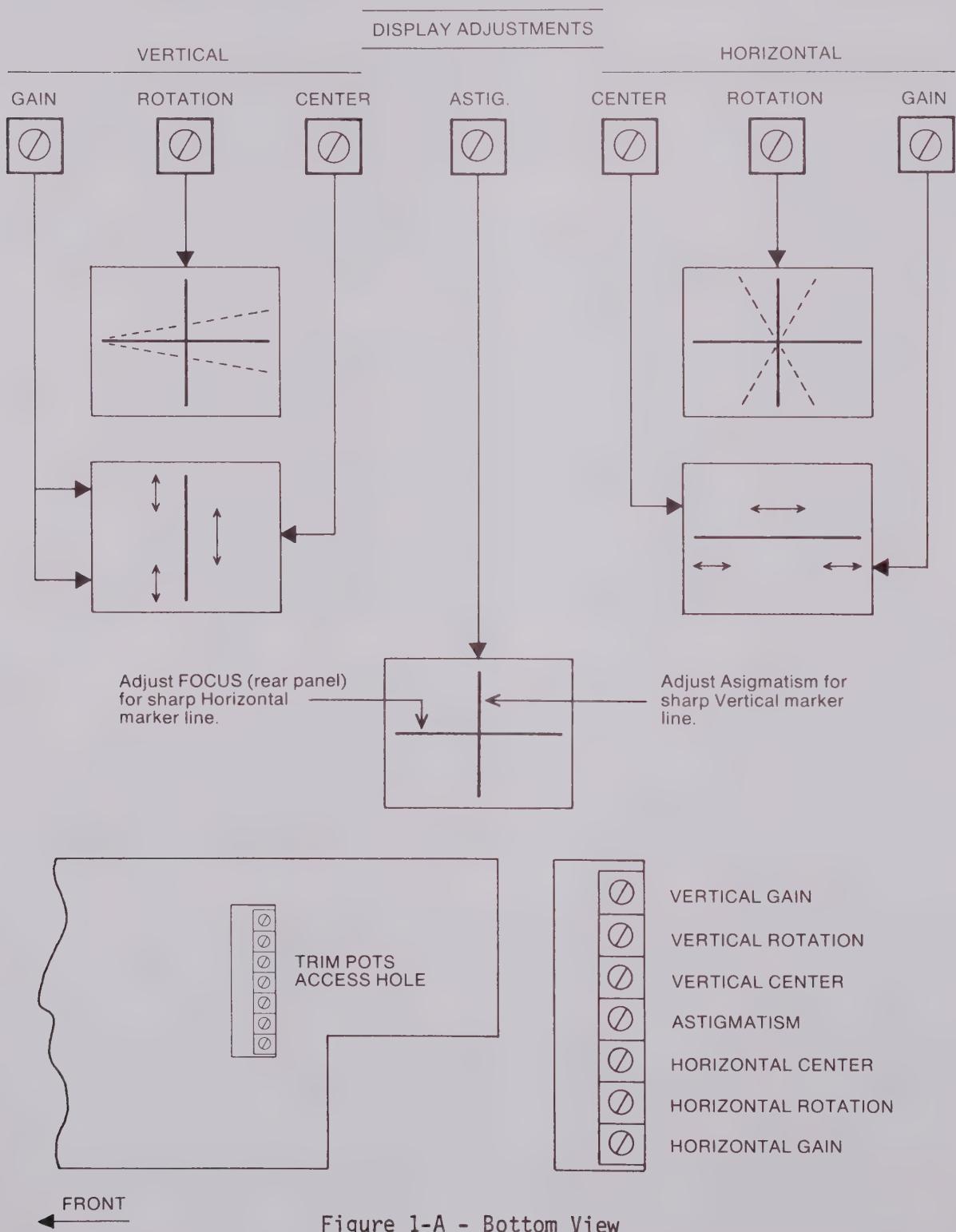
## ALIGNMENT PROCEDURE

It is recommended that the following alignment procedure be followed in the sequence as listed. Perform the alignment(s) if required.

1. Ground all (+) and (-) input BNC's.
2. Switch the FUNCTION selector to the ERASE position (spring loaded) and depress the EXECUTE pushbutton.
3. HORIZONTAL ROTATE: Rotates the entire display with the screen center acting as the pivot point.
  - a. Adjust until the vertical marker line is straight up and down.
4. VERTICAL ROTATE: Rotates the entire display with the left side of the screen acting as the pivot point.
  - a. Adjust until the horizontal marker line is level.
5. HORIZONTAL CENTER: Positions the display either left or right.
  - a. Adjust until the horizontal marker line is evenly centered on the screen.
6. HORIZONTAL GAIN: Expands or contracts the display in the horizontal plane.
  - a. Adjust until both ends of the horizontal marker line are approximately 3/16" from the sides of the screen.
7. VERTICAL CENTER: Positions the display either up or down.
  - a. Adjust until the vertical marker line is approximately 1/4" from the top of the screen.
8. VERTICAL GAIN: Expands or contracts the display in the vertical plane.
  - a. Adjust until the vertical marker line is approximately 1/8" from the bottom of the screen.
  - b. Repeat Step 7 and 8 until the vertical marker line is approximately 1/4" from the bottom of the screen.

9. ASTIGMATISM: Adjust the sharpness of the display and is used in conjunction with the FOCUS adjustment located on the rear panel.

- Adjust the Astigmatism trimpot for a sharp vertical marker line.
- Adjust the FOCUS control for a sharp horizontal marker line.



## FOCUS AND INTENSITY CONTROLS

The Focus and Intensity controls are located on the rear panel.

● FOCUS: The Focus control is used in conjunction with the Astigmatism trimpot described above in Step 9.

● INTENSITY: The Intensity control brightens or darkens the display. This control may be adjusted, when using the scope camera, to permit optimum results while capturing displays on film.

## MAINTENANCE

The following guidelines should be observed when cleaning the Explorer.

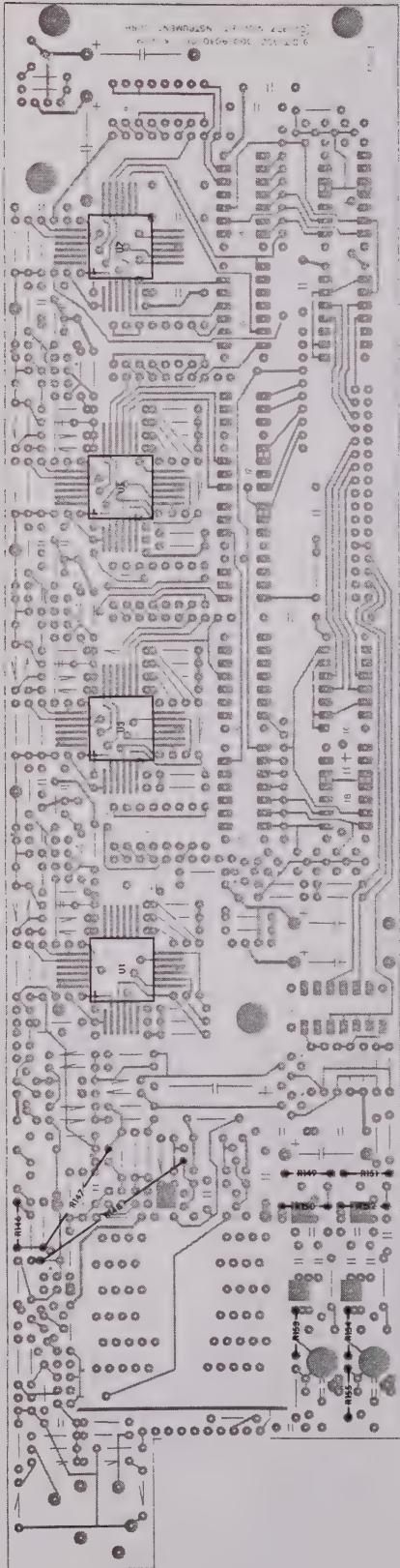
● SCOPE FACE: Clean the display face with a slightly damp, soft cloth.

● CABINET: Clean the external surfaces with a slightly damp, soft cloth using a mild detergent.

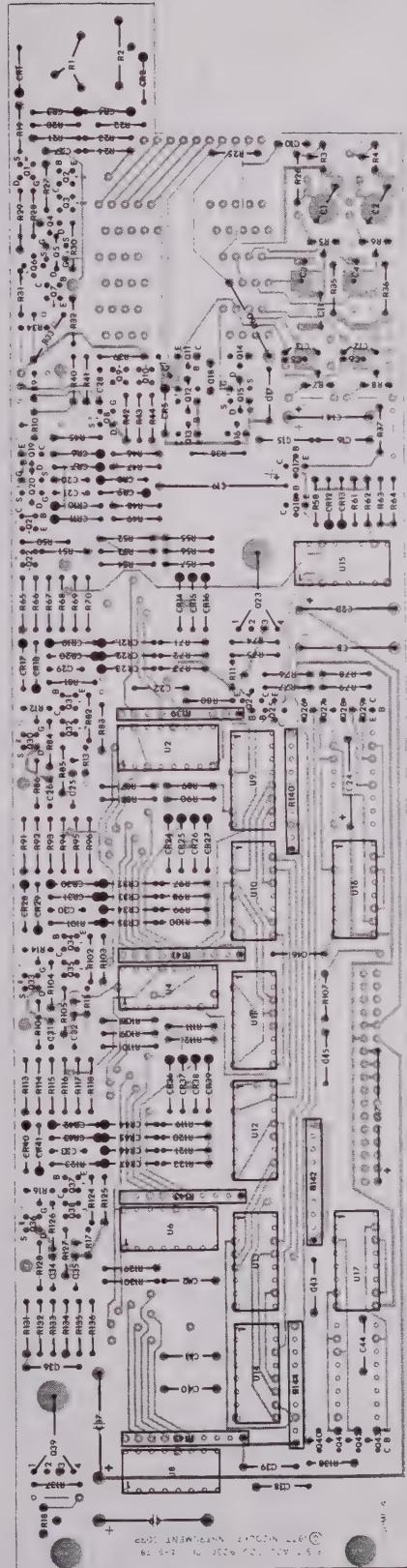
● AIR FILTER: The dust filter on the rear panel should be inspected at regular intervals and cleaned whenever an accumulation of dust appears.

To clean the filter: Remove the four retaining screws, remove the surface dust with either compressed air or a soft-bristle brush. Reinstall the filter.





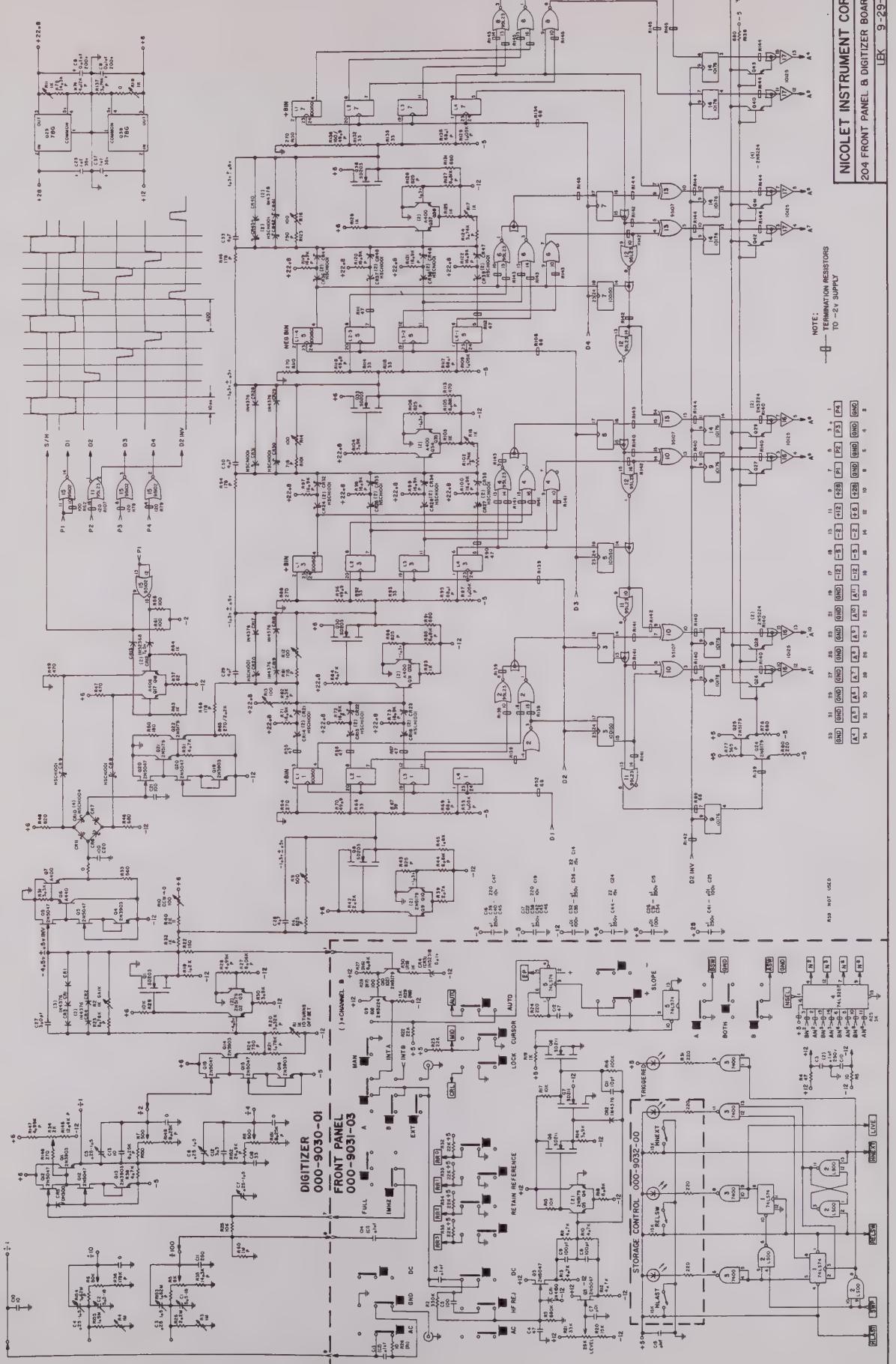
204 PLUG-IN DIGITIZER BOARD  
-CONDUCTOR SIDE-



204 PLUG-IN DIGITIZER BOARD  
- COMPONENT SIDE -

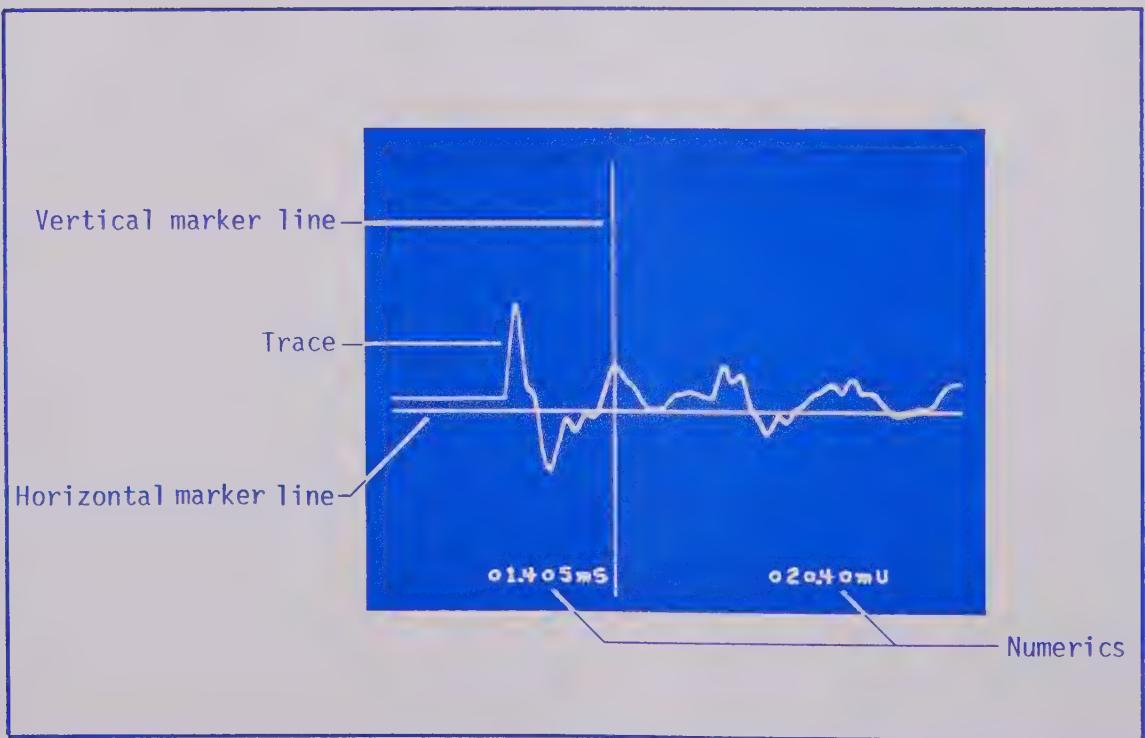
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## MODEL 206 PLUG-IN (With D2 Amplifier)

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### 1.0 REQUIREMENTS

#### 1.1 FUNCTION GENERATOR

1. Output: Square wave and Triangle wave
2. Adjustable amplitudes:  $100 \text{ mV}_{\text{pp}} - 20 \text{ V}_{\text{pp}}$
3. Adjustable frequencies: 0.2 - 10 kHz

#### 1.2 DIGITAL MULTIMETER

1. Resolution:  $4\frac{1}{2}$  or  $5\frac{1}{2}$  digits
2. Accuracy: .02% of input, DC Voltage

#### 1.3 EXTENDER BOARD

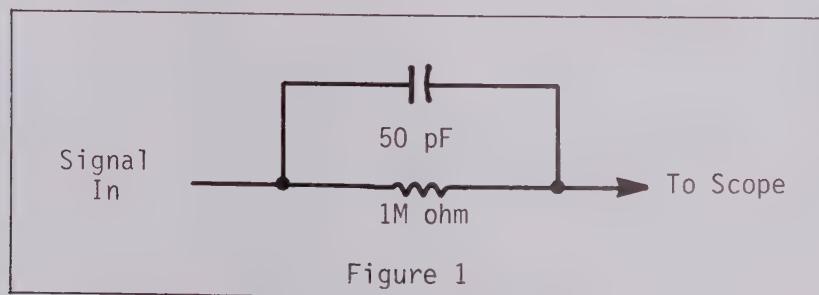
1. For D2 Amplifier: Furnished with Explorer

#### 1.4 TOOLS

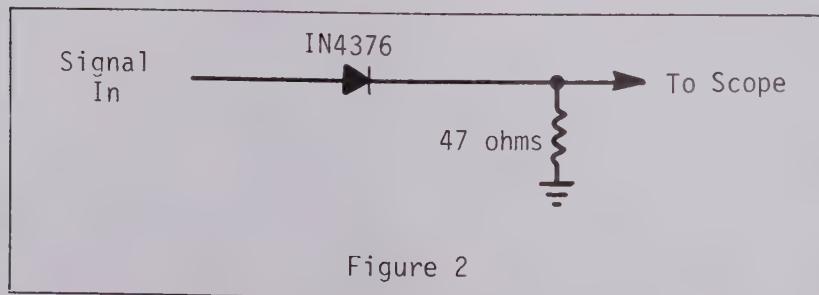
1. Allen wrench: 5/64
2. Screwdrivers: Adjustment and Common types
3. Open end wrench: 1/4"
4. Soldering Iron: 40W pencil type

#### 1.5 NETWORKS

1. Input capacitance:



2. Frequency compensation:



The left side cover must be removed and the D2 Amplifier board extended to perform the alignment procedures.

**WARNING:** All power must be removed from the oscilloscope before continuing.

1. Remove the two left side cover securing screws with a 5/64 Allen wrench and set aside.
2. Unsolder the two ground straps from the D2 Amplifier shields. (See Figure 3)
3. Remove the two screws securing the D2 Amplifier to the plug-in front panel and pull the D2 Amplifier out.
4. Insert the extender board between the ADC board and the D2 Amplifier board.
5. Ground the D2 Amplifier shield to the plug-in.
6. Replace the left side cover and cover the extended D2 Amplifier board.
7. Turn the oscilloscope on and allow it to warm up for at least 15 minutes before proceeding

**NOTE:** The Channel "A" D2 Amplifier and ADC boards must be removed to align the Channel "B" boards.

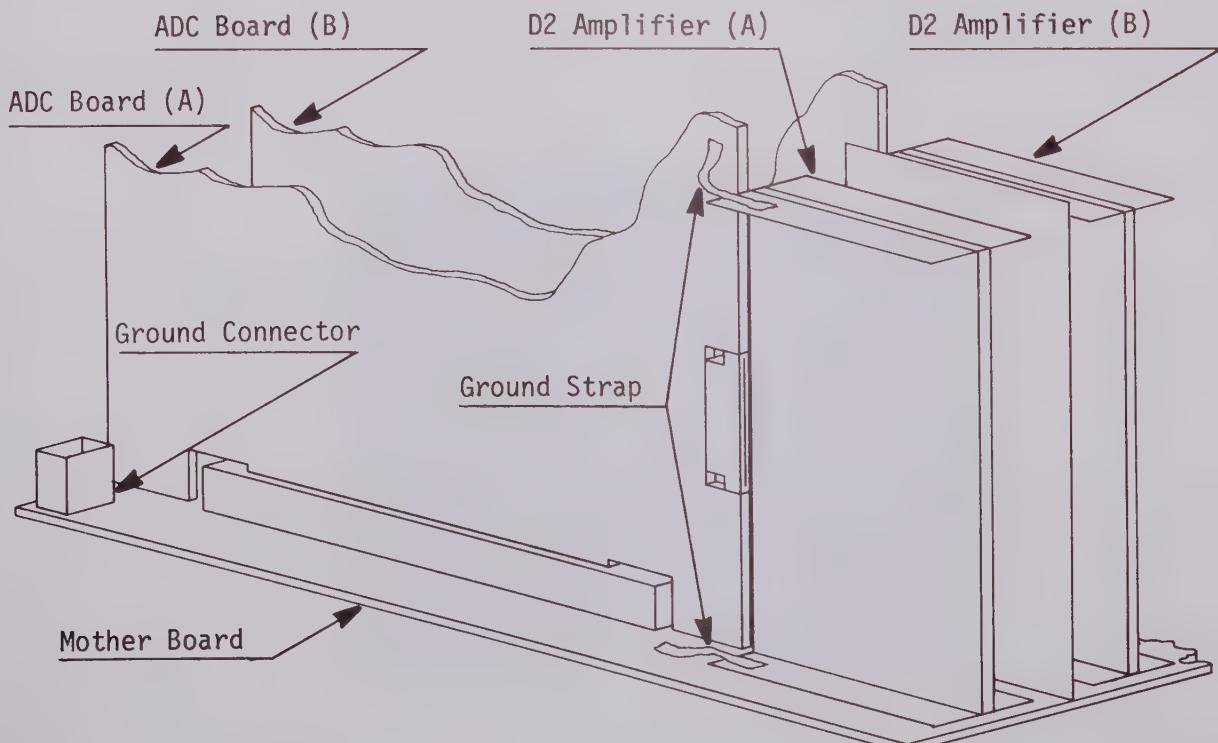


Figure 3

### 3.0 EXPLORER SET-UP PROCEDURE

The procedures have been outlined sequentially. Do not change any switch settings unless otherwise directed.

#### 3.1 MAIN FRAME CONTROLS

NOTE: Allow the oscilloscope to warm up for at least 15 minutes before proceeding with any alignment procedures.

Power On/Off:	ON
Vertical Expansion:	OFF
Horizontal Expansion:	OFF
Autocenter switch:	OFF
XY / YT switch:	YT
Function switch:	RESET NUMBERS
Memory switch:	ALL

#### 3.2 DISK DRIVE (Explorer III Models)

Track Protect switches:	Don't Care
Track Segment switch:	MAIN FRAME CONTROL (Full CCW)
Semi-Auto/Manual switch:	MANUAL

#### 3.3 206 PLUG-IN

Storage Control:	LIVE
Retain Reference:	OFF
Time Per Point:	500 nS
100 KHz Filter:	OFF
Channel A switch:	ON (Only if calibrating Channel A)
Channel B switch:	ON (Only if calibrating Channel B)
Trigger Mode:	AUTO
Trigger Slope:	-DC
Trigger Source:	Channel being calibrated. (See Note 1)
Trigger Threshold:	Adjust as required.
Range:	10V
Multiplier:	X2

NOTE 1: If the function generator has a sync output, connect it to the external trigger input BNC and then select EXT as the Trigger Source.

#### 4.0 VOLTAGE CHECK

1. Multimeter range: 0-20 VDC
2. Connect the multimeter to the +5VTP. (See Figure 5)
- a. Adjust R7 for +5 VDC  $\pm$  1%. (See Figure 4)

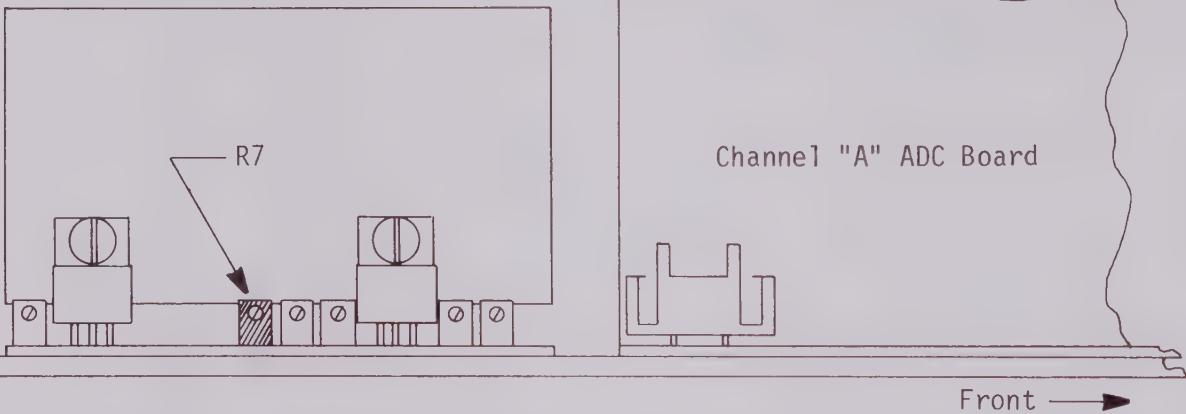


Figure 4

## 5.2 GAIN & OFFSET TESTS

1. DC Level adjust: Full CCW
2. Slowly adjust the DC Level control toward the full CW position.
  - a. Observe the waveform for separations similar to those illustrated in Figure 6 (Misaligned Gain) and/or Figure 7 (Misaligned Offset).
    - If a linear waveform is observed, repeat Procedures 5.1 and 5.2 for Channel B and then advance to Procedure 6.0 (Balance Adjust) if the waveform is linear.
    - If separations are observed, note which variation(s) (Gain and/or Offset) and then repeat Procedures 5.1 and 5.2 for Channel B before proceeding to Procedure 5.3.

## 5.3 EXPLORER DISASSEMBLY

**WARNING:** All power must be removed from the oscilloscope before continuing with this procedure.

1. Unplug the Ground Connector. See Figure 3.

**NOTE:** It is not necessary to reconnect the ground after the module has been removed from the oscilloscope.

2. With a 5/64 Allen wrench, remove the four corner screws (located on the front panel) securing the input module and slide the module halfway out of the oscilloscope.
3. Disconnect the ribbon cable from the rear of the input module.
4. Slide the input module the rest of the way out and set it to the left side of the oscilloscope.

**WARNING:** Place the input module on a non-conductive workbench free of metal such as solder splashes.

5. Reconnect the ribbon cable to the input module.
6. Reapply power to the oscilloscope.

## 5.4 GAIN ADJUSTMENTS

NOTE: The channel "A" ADC board must be removed if the GAIN trimpot(s) on the channel "B" ADC board require adjustment.

**WARNING:** Remove all power from the oscilloscope before removing the channel "A" ADC board.

1. DC Level control: Adjust fully CCW
  - a. Slowly adjust the DC Level control in the CW direction until a full screen triangle waveform appears.
2. Slowly adjust the Stage 4 - R66 trimpot (Figure 5) until a separation appears on the waveform.
  - a. Readjust the trimpot for the best linear waveform.
3. Repeat Step 2. Use trimpot (Stage 3 - R1)
4. Repeat Step 2. Use trimpot (Stage 2 - R1)
5. Repeat Step 2. Use trimpot (Stage 1 - R32)

NOTE: The DC Level control may require additional adjustment to isolate each separation as the trimpots are adjusted.

## 5.5 OFFSET ADJUSTMENTS

NOTE: The input module slide rail may require removal if the GAIN trimpot(s) on the channel "B" ADC board require adjustment.

**WARNING:** Remove all power from the oscilloscope before removing the rail.

1. DC Level control: Adjust fully CCW
  - a. Slowly adjust the DC Level control in the CW direction until a full screen triangle waveform appears.
2. Slowly adjust the Stage 5 - R49 trimpot (Figure 5) until a separation appears on the waveform.
  - a. Readjust the trimpot for the best linear waveform.
3. Repeat Step 2. Use trimpot (Stage 4 - R49)
4. Repeat Step 2. Use trimpot (Stage 3 - R49)
5. Repeat Step 2. Use trimpot (Stage 2 - R49)

3. Multimeter range: 0-40 VDC
4. Connect the multimeter to +25VTP. (See Figure 5)
  - a. Adjust R72 for +25 VDC  $\pm$  1%.
5. Connect the multimeter to -25VTP. (See Figure 5)
  - a. Adjust R74 for -25 VDC  $\pm$  1%.
6. Multimeter range: 0-20 VDC
7. Connect the multimeter to +8VTP. (See Figure 5)
  - a. Record reading.
8. Connect the multimeter to -8VTP. (See Figure 5)
  - a. Adjust R100 for a reading equal to the magnitude of the +8 VDC recorded in Step 7,  $\pm$  1%. (See Figure 5)

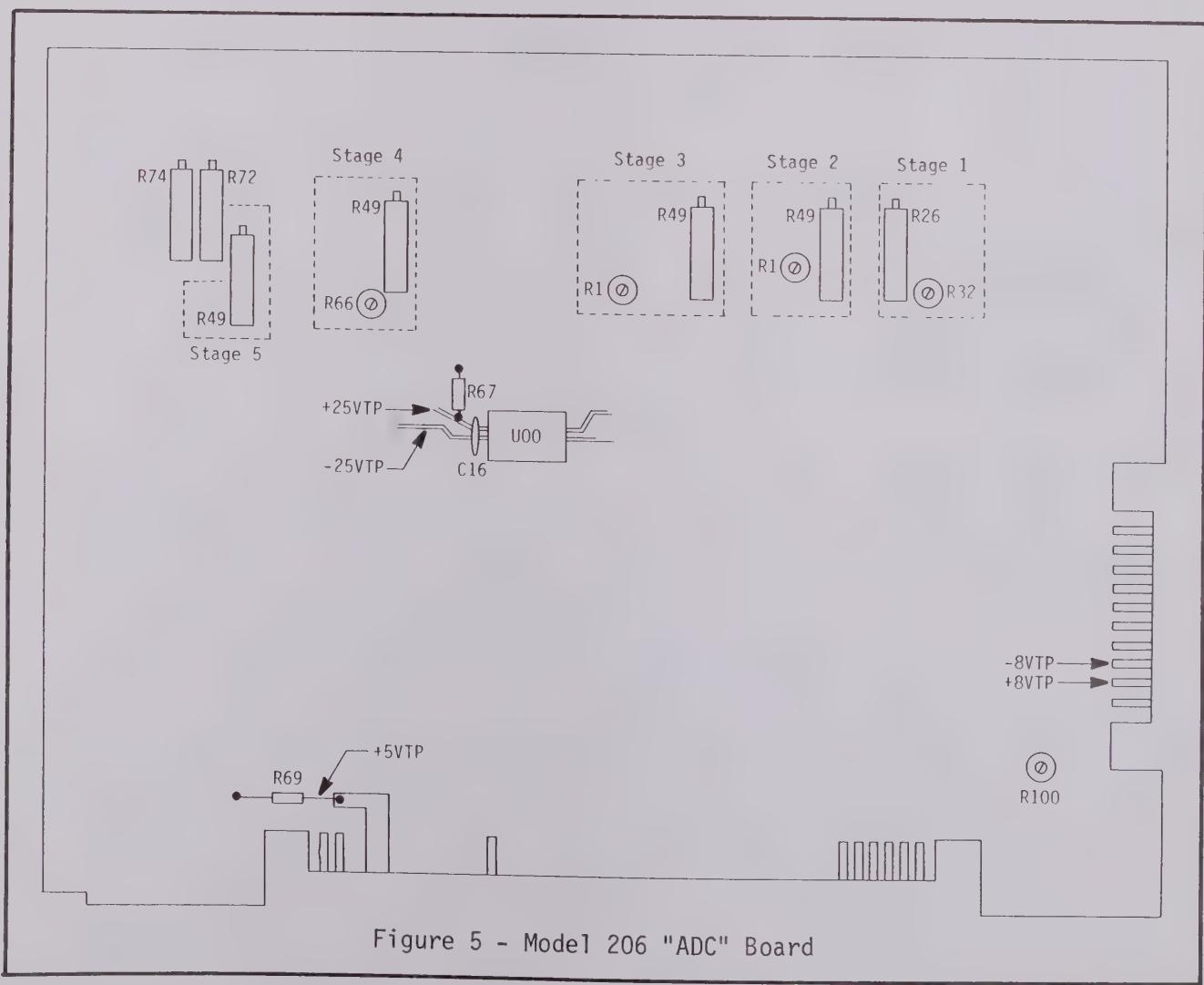


Figure 5 - Model 206 "ADC" Board

## 5.0 GAIN & OFFSET ADJUSTMENTS

An analog-to-digital converter (ADC) normally generates a series of incrementally increasing output voltages (digital outputs) when a gradually increasing voltage (analog signal) is applied to its input.

Discontinuities in the digital output signal will occur when misalignments of the Gain (Figure 6) and/or Offset (Figure 7) are present.

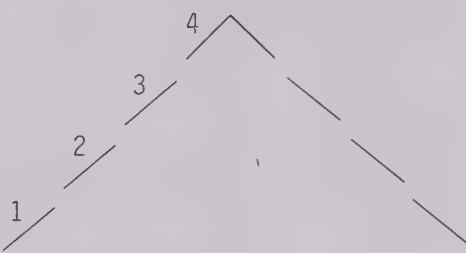


Figure 6 - Misaligned Gain

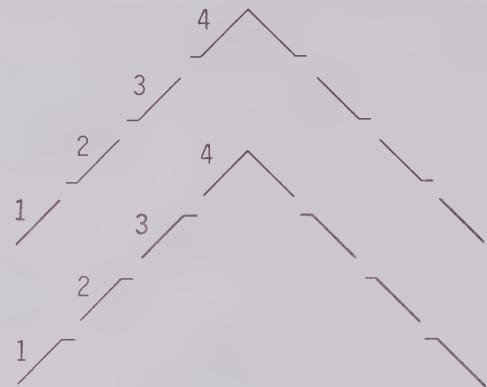


Figure 7 - Misaligned Offset

### 5.1 INITIAL SET-UP PROCEDURE

1. Multiplier Range: X2
2. Range: 1V
3. 100 kHz Filter switch: ON
4. Connect the signal generator to the input BNC of the channel to be aligned.
5. Signal Generator output: Triangle waveform
  - a. Adjust the waveform frequency for a one period display.
  - b. Adjust the waveform amplitude for a full screen display.
6. Vertical Expansion switch: X32

NOTE: It may be necessary to reposition the display by operating the paddle switch adjacent to the Vertical Expansion switch.

6. Repeat Step 2. Use trimpot (Stage 1 - R26)

NOTE: The DC Level control may require additional adjustment to isolate each separation as the trimpots are adjusted.

5.6 EXPLORER REASSEMBLY

**WARNING:** Remove all power from the oscilloscope before continuing.

1. Replace the input module slide rail if it was removed during Procedure 5.5.
2. Replace the channel "A" ADC board if it was removed during Procedure 5.4.
3. Disconnect the ribbon cable from the rear of the input module.
4. Slide the input module halfway into the oscilloscope and reconnect the ribbon cable to the rear of the input module.
5. Slide the input module the rest of the way into the oscilloscope and reconnect the ground to the Ground Connector.

5.7 GAIN & OFFSET ALIGNMENT CONFIRMATION

1. Replace the left side cover on the oscilloscope.
2. Apply power to the oscilloscope and allow it to warm up for 15 minutes.
3. With the triangle waveform still applied to the oscilloscope, slowly adjust the DC Level control from fully CCW to fully CW and observe the waveform for separations. Repeat for the other channel.
  - a. Repeat Procedure 5.0 thru 5.7 if necessary.
4. Remove signal generator from input BNC.

5.8 SUMMARY OF GAIN & OFFSET TRIMPOTS

STAGE	GAIN TRIMPOTS	OFFSET TRIMPOTS
5	None	Stage 5 - R49
4	Stage 4 - R66	Stage 4 - R49
3	Stage 3 - R1	Stage 3 - R49
2	Stage 2 - R1	Stage 2 - R49
1	Stage 1 - R32	Stage 1 - R26

## 6.0 BALANCE ADJUSTMENTS

### 6.1 X1 & X2 MULTIPLIER BALANCE

1. Vertical Expansion switch: OFF
  2. Range Multiplier: X2
  3. Range: 100 mV
  4. Ground the (+) and (-) input BNCs.
  5. DC Level control: Adjust trace to center of screen.
  6. Multimeter range: 0-10 mVDC
  7. Connect multimeter to G1TP. (See Figure 8)
    - a. Adjust R44 for 0 VDC  $\pm$  1 mVDC
  8. Vertical Expansion switch: X64
  9. Autocenter switch: ON, then OFF
  10. Range Multiplier switch: X1
    - a. Observe trace for vertical shift.
    - b. Adjust R47 (Figure 8) until the trace is aligned with the horizontal marker line.
- NOTE: Make the first adjustment without vertical expansion if the shift is excessive.
11. Range Multiplier switch: X2
  12. Repeat Steps 9 thru 11 until minimum shifting is achieved.

### 6.2 X2 & X4 MULTIPLIER BALANCE

1. Range Multiplier: X4
2. Autocenter switch: ON, then OFF
3. Range Multiplier: X2
  - a. Observe trace for vertical shift.
  - b. Adjust R20 (Figure 9) until the trace is aligned with the horizontal marker line.

NOTE: Make the first adjustment without vertical expansion if the shift is excessive.

4. Repeat Steps 1 thru 3 until minimum shifting is achieved.
5. Range Multiplier: Switch between X1, X2 and X4
  - a. Repeat Procedures 6.1 and 6.2 if necessary.
6. Remove the grounds from the (+) and (-) input BNCs.

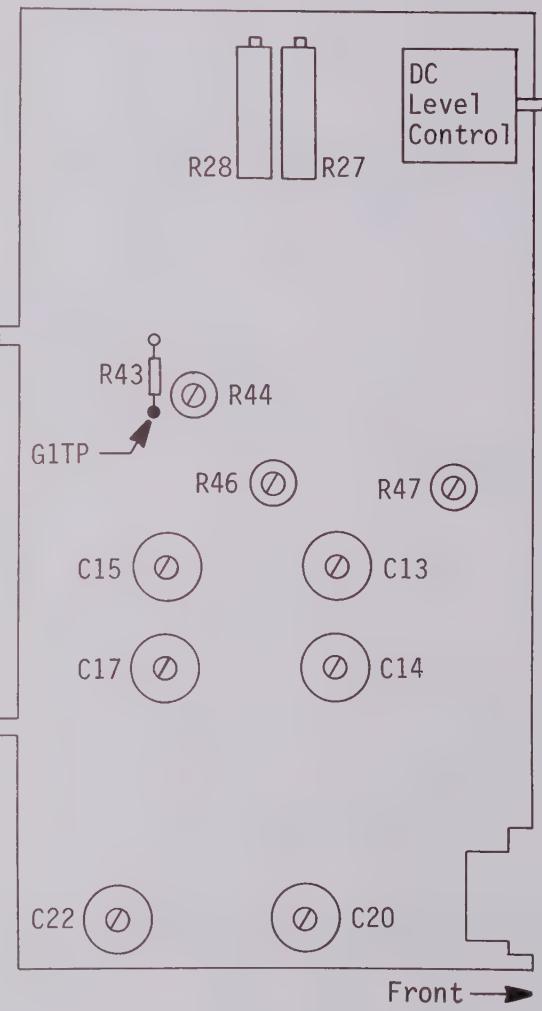


Figure 8 - Left side view

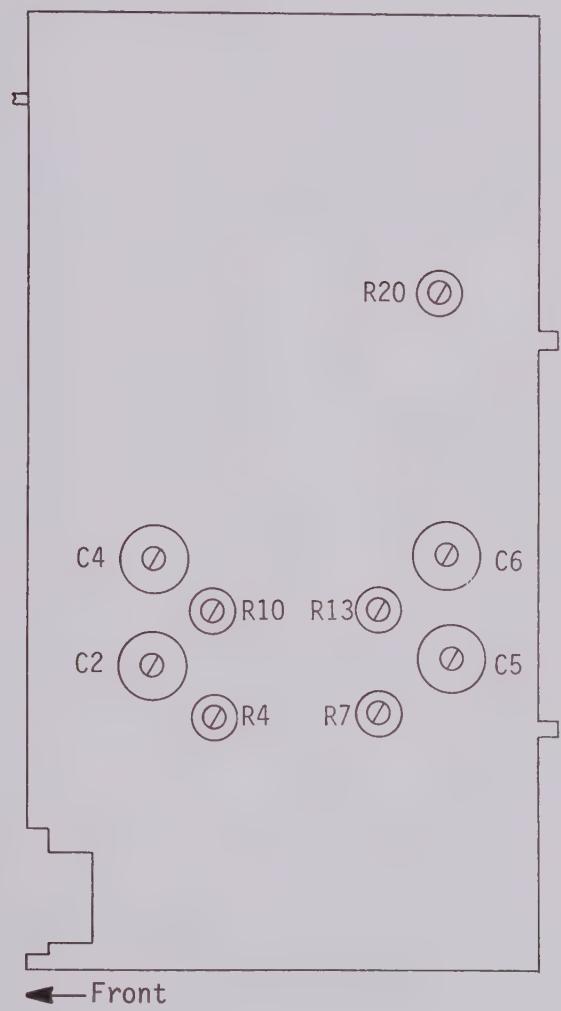


Figure 9 - Right side view

## 7.0 COMMON MODE ADJUSTMENT

1. 100 kHz Filter switch: OFF
2. Range Multiplier: X2
3. Vertical Expansion switch: OFF
4. Signal Generator output: 10 kHz Square wave
5. Apply square wave to the (+) input BNC.
  - A. Adjust for a 3/4 full screen display.

NOTE: The Offset and Trigger Level controls may require adjustment.
6. Apply the same signal to the (-) input BNC.

NOTE: The signal must be applied to both the (+) and (-) input BNCs.
7. Autocenter switch: ON
8. Vertical Expansion switch: X64
9. Adjust R27 (Figure 8) for the best straight line.
10. Vertical Expansion switch: OFF
11. Disconnect the signals from the (+) and (-) input BNCs.

## 8.0 200 mV RANGE INPUT CAPACITANCE

### 8.1 (+) INPUT BNC

1. Signal Generator output: 10 kHz Square wave *use 100% 50% 70%*
2. Apply square wave to the (+) input BNC using the Input Capacitance network illustrated in Figure 1. *use 47PF Normalized 70%*
  - a. Adjust for a 3/4 full screen display.
3. Vertical Expansion switch: X32
4. Horizontal Expansion switch: X16
5. Adjust C20 (Figure 8) for minimum overshoot or undershoot.
6. Vertical Expansion switch: OFF

## 8.2 (-) INPUT BNC

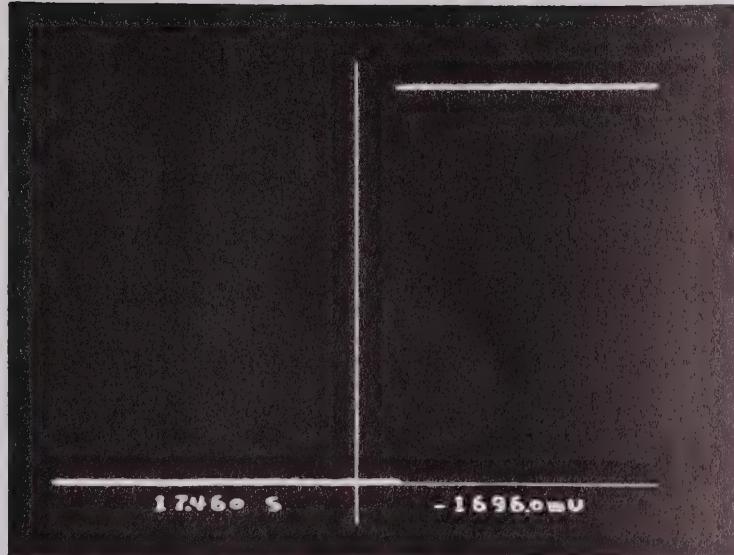
1. Remove the square wave signal from the (+) input BNC and apply it to the (-) input BNC using the Input Capacitance network.
  - a. Adjust for a 3/4 full screen display.
2. Vertical Expansion switch: X32
3. Adjust C22 (Figure 8) for minimum overshoot or undershoot.
4. Vertical Expansion switch: OFF
5. Horizontal Expansion switch: OFF
6. Remove the Input Capacitance network from the (-) input BNC.

## 9.0 GAIN CALIBRATION

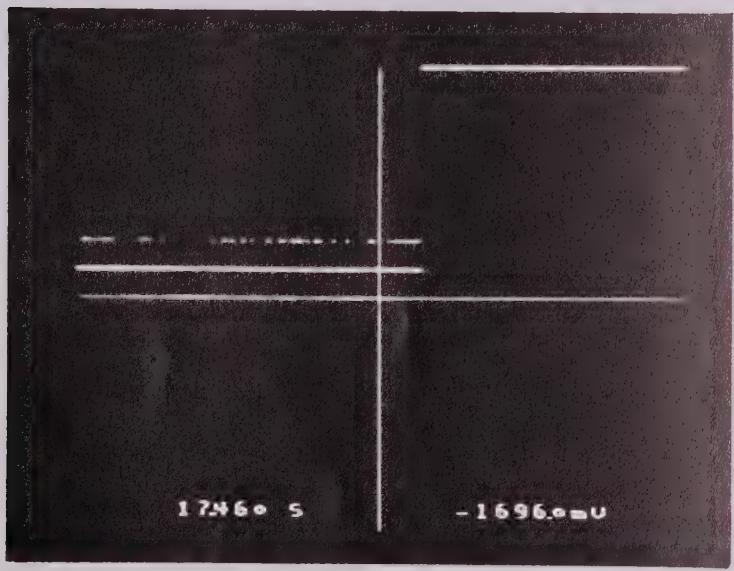
### 9.1 200 mV RANGE

1. Memory switch: Q1
2. Filter switch: ON
3. Time Per Point: 5 mS
4. Autocenter switch: OFF
5. Range Multiplier: X2
6. Range: 100 mV
7. Signal Generator output: 0.2 Hz Square wave
  - a. Adjust for a 3/4 full screen display.

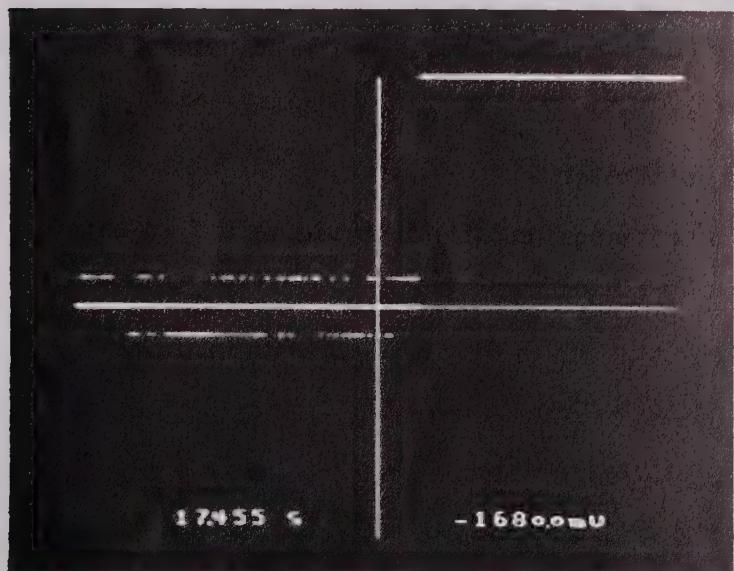
NOTE: The Offset and Trigger Level controls may require adjustment.
8. Multimeter range: 0-400 mVDC
9. Apply same square wave signal to multimeter.
10. Record both (+) and (-) multimeter readings and ADD absolute values to obtain the peak-to-peak voltage.



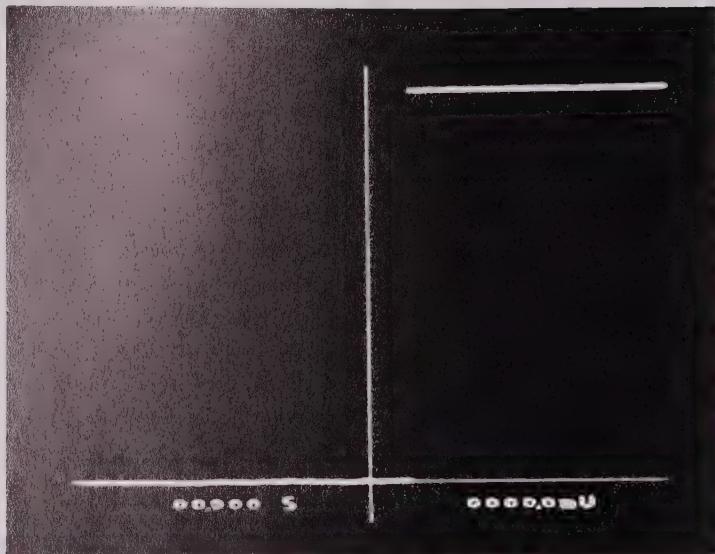
11. Depress the HOLD NEXT pushbutton.
  - a. Wait until the waveform has been stored. (Hold Last led lit only.)



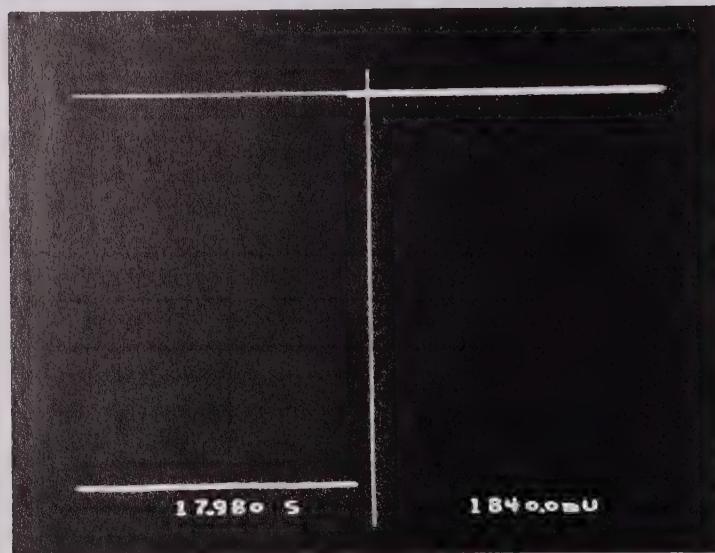
12. Autocenter switch: ON
13. Vertical Expansion switch: X64



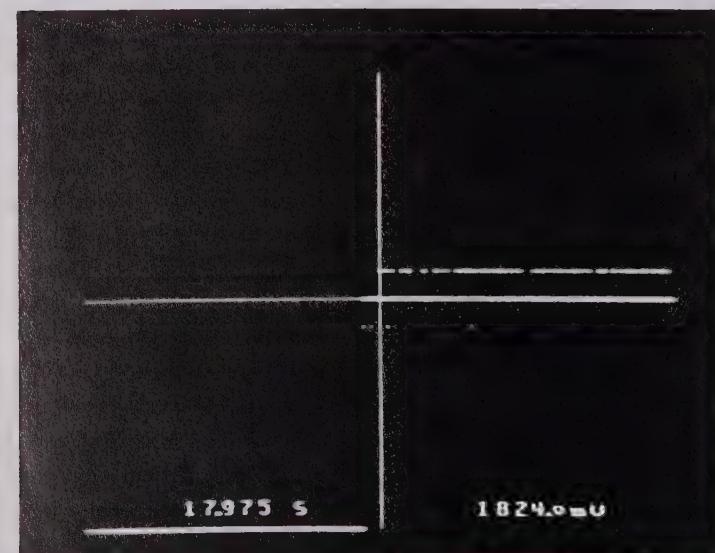
14. Several levels of data points will be displayed due to a certain amount of "noise." Select the level with the majority of data points by moving the horizontal marker line.



15. Vertical Expansion switch: OFF
16. Function switch: RESET
17. Depress the Execute button.
  - a. Time and voltage numerics indicate zero.



18. Position the vertical marker line to the opposite peak of the waveform.



19. Vertical Expansion switch: X64
20. Select the level with the majority of data points.
  - a. Record the peak-to-peak voltage displayed on the oscilloscope.

21. Compute the Percent Error.

a. The percent error should be less than 0.2%.

$$\text{Percent Error} = \left| \frac{\text{Multimeter } (V_{pp}) - \text{Scope } (V_{pp})}{\text{Multimeter } (V_{pp})} \right| \times 100$$

22. Adjust R28 (Figure 8).

a. CW to increase. CCW to decrease.

23. Depress the LIVE pushbutton.

24. Vertical Expansion switch: OFF

25. Autocenter switch: OFF

26. Repeat Procedure 9.1, Steps 11 thru 25 until percent error is less than 0.2%.

## 9.2 100 mV, 2V & 20V RANGES

Repeat Procedure 9.1 (100 mV Range) for each of the Range Calibrations and substitute the steps listed in the table below.

RANGE TO BE CALIBRATED	STEP 5	STEP 6	STEP 8	STEP 22
	Range Multiplier	Range	Multimeter Range	Trimpot
100 mV	X1	100 mV	0-200 mV	R46
2V	X2	1V	0-4V	R4
20V	X2	10V	0-40V	R10

NOTE: Disconnect the multimeter when the Range Calibrations have been completed.

## 10.0 FREQUENCY COMPENSATION

use PG 506 Generator, you will not n  
the comp. Network,

### 10.1 20V RANGE

1. Filter switch: OFF
2. Memory switch: ALL
3. Time Per Point switch: 500 nS
4. Depress the LIVE pushbutton
5. Vertical Expansion switch: OFF
6. Horizontal Expansion switch: OFF
7. Signal Generator output: 10 kHz Square wave
8. Apply square wave to the (+) input BNC using the Frequency Compensation network illustrated in Figure 2.
  - a. Adjust for a 3/4 full screen display or as large of a signal as the generator will supply without exceeding a 3/4 full screen display.
9. Autocenter switch: ON
10. Vertical Expansion switch: X32
11. Horizontal Expansion switch: X16
12. Adjust C13 (Figure 8) for minimum negative cycle overshoot or undershoot.  
*C14/2V Range*
13. Vertical Expansion switch: OFF
14. Horizontal Expansion switch: OFF
15. Autocenter switch: OFF
16. Remove the Frequency Compensation network.
17. Apply square wave to the (+) input BNC.
  - a. Adjust for a 3/4 full screen display or as large of a signal as the generator will supply without exceeding a 3/4 full screen display.
18. Apply the same signal to the (-) input BNC.  
NOTE: The signal must be applied to both the (+) and (-) input BNCs.
19. Autocenter switch: ON
20. Vertical Expansion switch: X32
21. Horizontal Expansion switch: X8

22. Adjust both C15 (Figure 8) and R13 (Figure 9) for the best straight line.  
NOTE: It may be necessary to repeat adjusting C15 and R13 to obtain the best straight line.
23. Autocenter switch: OFF
24. Vertical Expansion switch: OFF
25. Horizontal Expansion switch: OFF

## 10.2 2V RANGE

1. Range: 1V
2. Repeat Procedure 10.1, Steps 7 thru 25, and make the substitutions listed
  - a. Step 12: C14
  - b. Step 22: C17 & R7

---

## 11.0 INPUT CAPACITANCE ADJUSTMENT

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### 11.1 2V RANGE

1. Signal Generator output: 10 kHz Square wave
2. Apply square wave to the (+) input BNC using the Input Capacitance network illustrated in Figure 1. *USR 4781 Normalizer 748*
  - a. Adjust for a 3/4 full screen display.
3. Vertical Expansion switch: X32
4. Horizontal Expansion switch: X16
5. Adjust C2 (Figure 9) for minimum overshoot or undershoot.
6. Vertical Expansion switch: OFF
7. Remove the square wave signal from the (+) input BNC and apply it to the (-) input BNC.
  - a. Adjust for a 3/4 full screen display.
8. Adjust C5 (Figure 9) for minimum overshoot or undershoot.
9. Vertical Expansion switch: OFF
10. Horizontal Expansion switch: OFF

## 11.2 20V RANGE

1. Signal Generator output: 10 kHz Square wave
2. Apply square wave to the (-) input BNC using the Input Capacitance network illustrated in Figure 1.
  - a. Adjust for a 3/4 full screen display or as large of a signal as the generator will supply without exceeding a 3/4 full screen display.
3. Vertical Expansion switch: X32
4. Horizontal Expansion switch: X16
5. Adjust C6 (Figure 9) for minimum negative cycle overshoot or undershoot.
6. Vertical Expansion switch: OFF
7. Remove the square wave signal from the (-) input BNC and apply it to the (+) input BNC.
  - a. Adjust for a 3/4 full screen display.
8. Adjust C4 (Figure 9) for minimum negative cycle overshoot or undershoot.



## DISPLAY ALIGNMENT

## TRIM POTS ACCESS

The display trim pots are accessible from the bottom of the oscilloscope. Refer to Figure A-1.

**WARNING:** High voltages exist in the oscilloscope. Use care during the following procedures.

## ALIGNMENT PROCEDURE

It is recommended that the following alignment procedure be followed in the sequence as listed. Perform the alignment(s) if required.

1. Ground all (+) and (-) input BNC's.
2. Switch the FUNCTION selector to the ERASE position (spring loaded) and depress the EXECUTE pushbutton.
3. HORIZONTAL ROTATE: Rotates the entire display with the screen center acting as the pivot point.
  - a. Adjust until the vertical marker line is straight up and down.
4. VERTICAL ROTATE: Rotates the entire display with the left side of the screen acting as the pivot point.
  - a. Adjust until the horizontal marker line is level.
5. HORIZONTAL CENTER: Positions the display either left or right.
  - a. Adjust until the horizontal marker line is evenly centered on the screen.
6. HORIZONTAL GAIN: Expands or contracts the display in the horizontal plane.
  - a. Adjust until both ends of the horizontal marker line are approximately 3/16" from the sides of the screen.
7. VERTICAL CENTER: Positions the display either up or down.
  - a. Adjust until the vertical marker line is approximately 1/4" from the top of the screen.
8. VERTICAL GAIN: Expands or contracts the display in the vertical plane.
  - a. Adjust until the vertical marker line is approximately 1/8" from the bottom of the screen.
  - b. Repeat Step 7 and 8 until the vertical marker line is approximately 1/4" from the bottom of the screen.

9. ASTIGMATISM: Adjust the sharpness of the display and is used in conjunction with the FOCUS adjustment located on the rear panel.

a. Adjust the Astigmatism trimpot for a sharp vertical marker line.

b. Adjust the FOCUS control for a sharp horizontal marker line.

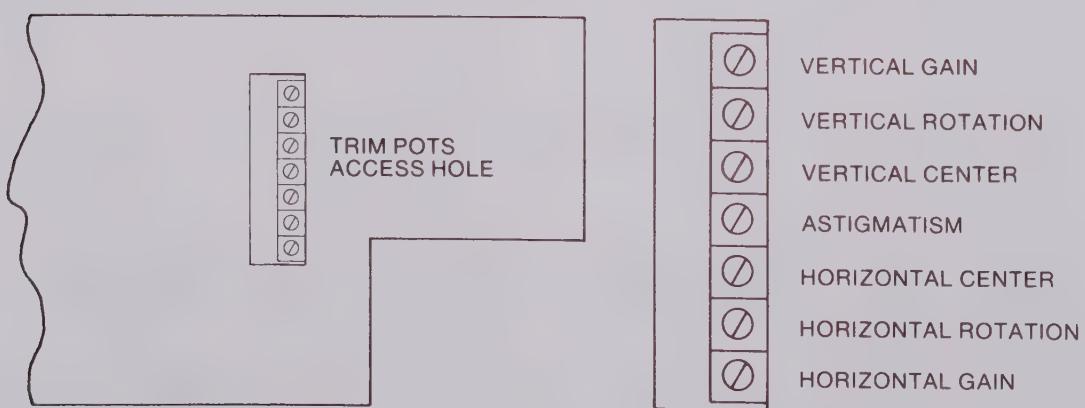
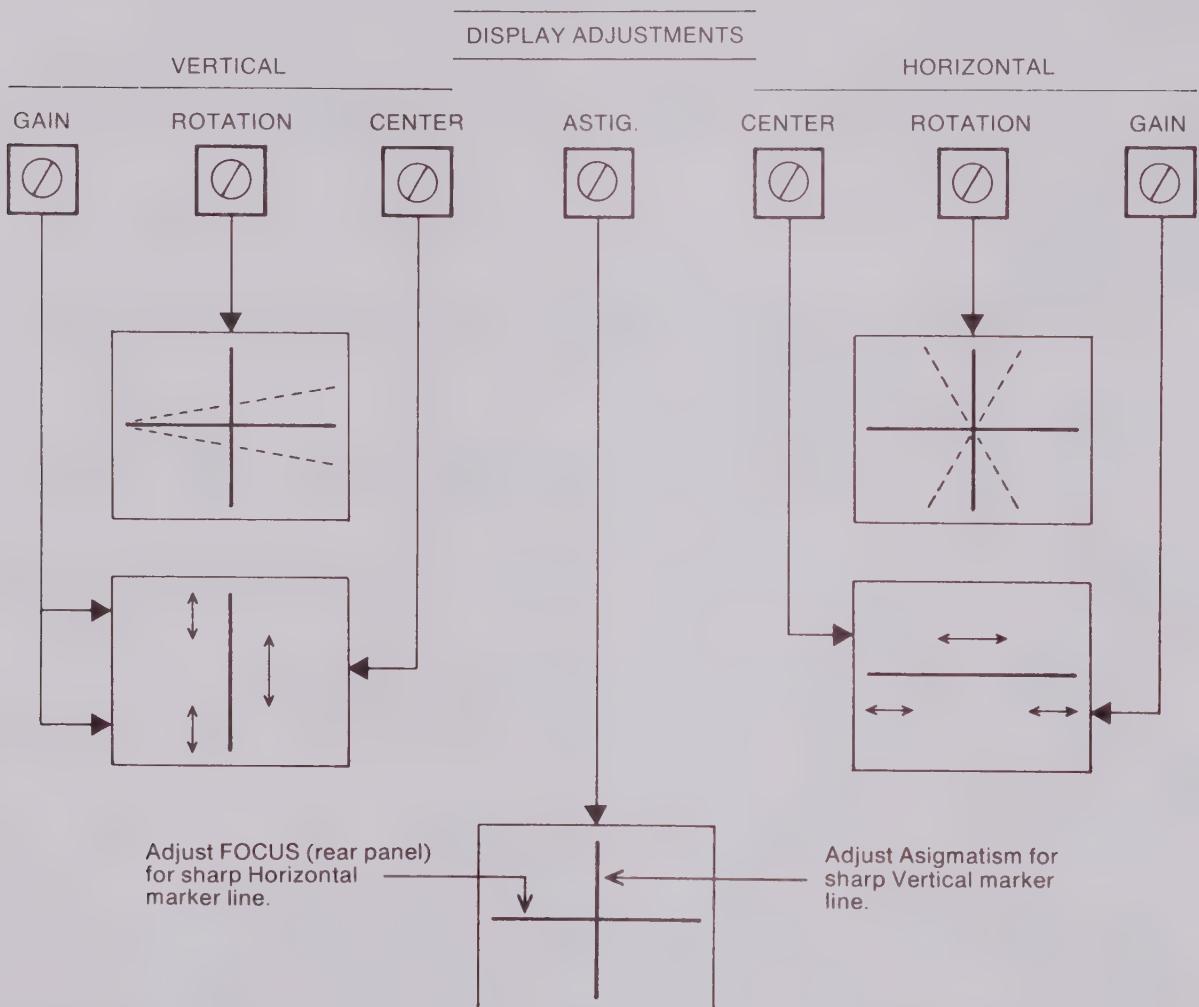


Figure 1-A - Bottom View

## FOCUS AND INTENSITY CONTROLS

The Focus and Intensity controls are located on the rear panel.

- **FOCUS:** The Focus control is used in conjunction with the Astigmatism trimpot described above in Step 9.
- **INTENSITY:** The Intensity control brightens or darkens the display. This control may be adjusted, when using the scope camera, to permit optimum results while capturing displays on film.

## MAINTENANCE

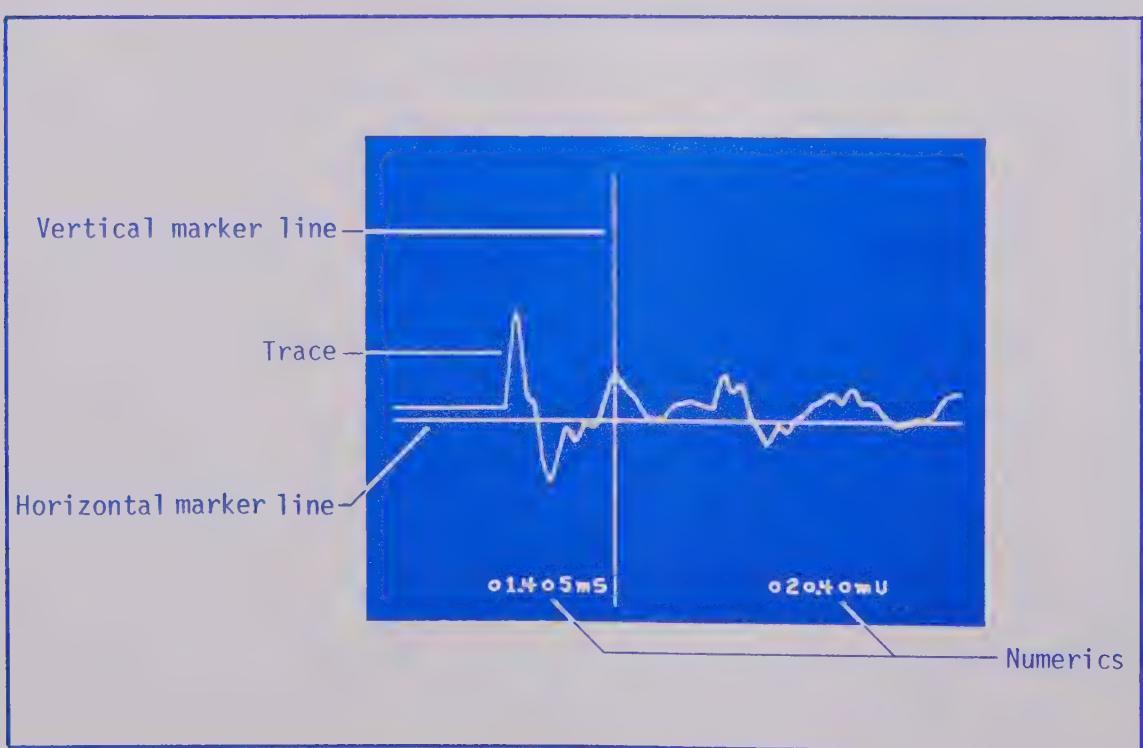
The following guidelines should be observed when cleaning the Explorer.

- **SCOPE FACE:** Clean the display face with a slightly damp, soft cloth.
- **CABINET:** Clean the external surfaces with a slightly damp, soft cloth using a mild detergent.
- **AIR FILTER:** The dust filter on the rear panel should be inspected at regular intervals and cleaned whenever an accumulation of dust appears.

To clean the filter: Remove the four retaining screws, remove the surface dust with either compressed air or a soft-bristle brush. Reinstall the filter.







# SPECIFICATIONS | 2090

## MAINFRAME

Memory Size: 4K words, 12 bits.  
Addressable Subgroups: Halves (2K), Quarters (1K).  
Storage Capacity: Normally 8 waveforms, (16 waveforms max).  
Display: 5-inch, high definition.  
Expansion: Up to X64, both axes, cursor-interactive.  
Numerics:  
(a) YT Display Mode: Time and voltage.  
(b) XY Display Mode: X-voltage and Y-voltage.  
Numeric Displays (XY/YT):  
(a) Normal: Absolute numerics.  
(b) Reset Numerics: Relative numerics.  
Arithmetic Functions: Subtract, Invert, Data Move.  
Autocenter:  
(a) Unexpanded Display: Automatic lock of cursor to waveform.  
(b) Expanded Display: Automatic waveform centering.  
Pen: Analog output to XY pen recorder.

## DISK RECORDER

Disk Recorder Type: 5-1/4" Floppy, single sided, single density, soft-sectored, 48 TPI.  
Storage Capacity/Diskette: Eight 4K, sixteen 2K or thirty-two 1K records.  
Write Protection: Switchable, track-specific.  
Autocycle: Automatic consecutive capture-and-store of up to 32 records.  
Long Sweep: Continuous recording of up to 32K of data at sweep speeds of 500 microseconds per point or slower, (2090-3C/206 or 201 only).

## DIGITAL I/O

Interfaces Available: 13-bit parallel binary,  
IEEE-488 (GPIB),  
RS-232C.  
Minimum Transfer Times (4K): Parallel Binary, 8 milliseconds.  
GPIB Binary, 2.5 seconds.  
RS-232C Binary, 8.5 seconds.

## OVERALL DIMENSIONS

2090-2: 28.6cm (W) x 25cm (H) x 47.3cm (D)  
2090-3: 43.2cm (W) x 25cm (H) x 47.3cm (D)

## APPROXIMATE WEIGHTS

2090-2: 30 lbs, (14 kg)  
2090-3: 46 lbs, (21 kg)

## POWER REQUIREMENTS

2090-2: 101, 115, 202, 230 VAC ( $\pm 10\%$ ); 50-60Hz ( $\pm 5\%$ ); 225 volt-amperes.  
2090-3: 101, 115, 202, 230 VAC ( $\pm 10\%$ ); 50-60Hz ( $\pm 5\%$ ); 300 volt-amperes.

# SPECIFICATIONS | 2090

PARAMETER	PLUG-INS			
	201	204-A	206	207
Inputs:	2 Differential	2 Single-Ended	2 Differential	2 Differential or 4 Single-Ended
Vertical Resolution	12-bits (0.025%)	8-bits (0.4%)	12-bits (0.025%)	12-bits (0.025%)
Maximum Sweep Length:	4096 pts. (Note 1)	4096 pts.	4096 pts. (Note 1)	4096 pts. (Note 1)
Maximum Digitizing Rate:				
a. 2 inputs:	5 $\mu$ S/pt.	50 nS/pt.	500 nS/pt.	500 nS/pt.
b. 4 inputs:	N/A	N/A	N/A	10 $\mu$ S/pt.
Minimum Digitizing Rate:	200S/pt.	20S/pt.	200S/pt.	200S/pt.
Time Base Accuracy (%):	0.01	0.01	0.01	0.01
External Clock Input:	No	Yes	Yes	Yes
Overall Accuracy (%F.S.):	0.2	0.5	0.2	0.2 (Note 2)
Linearity (%F.S.):	0.1	0.5	0.1	0.1
Noise, (RMS, open inputs):	0.025% F.S. +7 $\mu$ V	0.25% F.S.	0.025% F.S. +10 $\mu$ V	0.03% F.S. +10 $\mu$ V
Drift, (%F.S./°C):	0.03	0.35	0.06	0.15
Inputs				
a. Coupling:	DC	AC/DC	DC	AC/DC/GND
b. Ranges (Full Scale):	$\pm$ 10mV to $\pm$ 40V	$\pm$ 100mV to $\pm$ 40V	$\pm$ 100mV to $\pm$ 40V	$\pm$ 10mV to $\pm$ 40V
c. Impedance (ohms)	10,000M (Note 3)	1M (47 pF)	1M (47 pF)	1M (47 pF)
d. Filter (Switchable, RC):	100Hz	1MHz	100KHz	10K, 100KHz
Safe Overload:				
a. At max. sensitivity:	100V	100V	100V	10V
b. At min. sensitivity:	200V	200V	200V	200V
Analog Bandwidth:				
a. At max. sensitivity:	5 KHz	7 MHz	400 KHz	400 KHz
b. At min. sensitivity:	60 KHz	7 MHz	650 KHz	1 MHz
D.C. Offset Range (% F.S.):	100	100	100	200
Common Mode				
a. Voltage Range, (%F.S.):	150	N/A	200	1000
b. Rejection Ratio (db):	72	N/A	72	72
Trigger Range				
a. External (Volts):	$\pm$ 5	$\pm$ 5	$\pm$ 3	$\pm$ 3
b. Internal (%F.S.):	100	100	100	100
Trigger Sensitivity				
a. External (Volts):	0.25	0.1	0.25	0.25
b. Internal (%F.S.):	10	1	10	10
Max. Pre-Trigger Delay (% of Sweep Time):	25	100	100	100

NOTE 1: Longer sweeps are possible with the optional disk recorder.

NOTE 2: Overall accuracy on 10mV, 20mV, and 40mV ranges is 1.5% of full scale.

NOTE 3: The input impedance of the 201 is 1 Megohm on 10V, 20V, and 40V ranges.

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MODEL 206 PLUG-IN (With D3 Amplifier)

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**1.0 REQUIREMENTS**

**1.1 FUNCTION GENERATOR**

1. Output: Square wave and Triangle wave
2. Adjustable amplitudes: 100 mV<sub>pp</sub> - 20 V<sub>pp</sub>
3. Adjustable frequencies: 0.2 - 10 KHz

**1.2 DIGITAL MULTIMETER**

1. Resolution: 4½ or 5½ digits
2. Accuracy: .02% of input, DC Voltage

**1.3 TOOLS**

1. Allen wrench: 5/64
2. Screwdrivers: Adjustment and Common types
3. Open end wrench: 1/4"
4. Soldering Iron: 40W pencil type

**1.4 NETWORKS**

1. Frequency compensation

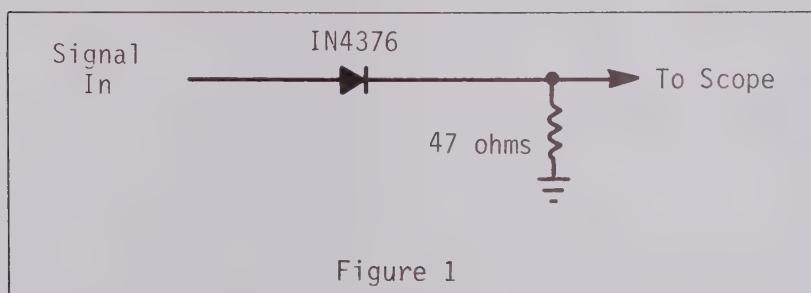


Figure 1

The left side cover must be removed when performing alignments. In addition, the Channel "A" ADC and D3 Amplifier boards must be removed when performing adjustments on the Channel "B" boards.

**WARNING:** All power must be removed from the oscilloscope before continuing.

1. Remove the two left side cover securing screws with a 5/64 Allen wrench and set aside.
2. Unsolder the two ground straps from the Channel "A" D3 Amplifier shields. (See Figure 2.)
3. Remove the two screws securing the D3 Amplifier to the plug-in front panel and pull the D3 Amplifier out.
4. Replace the left side cover.
5. Turn the oscilloscope on and allow it to warm up for at least 15 minutes before continuing.

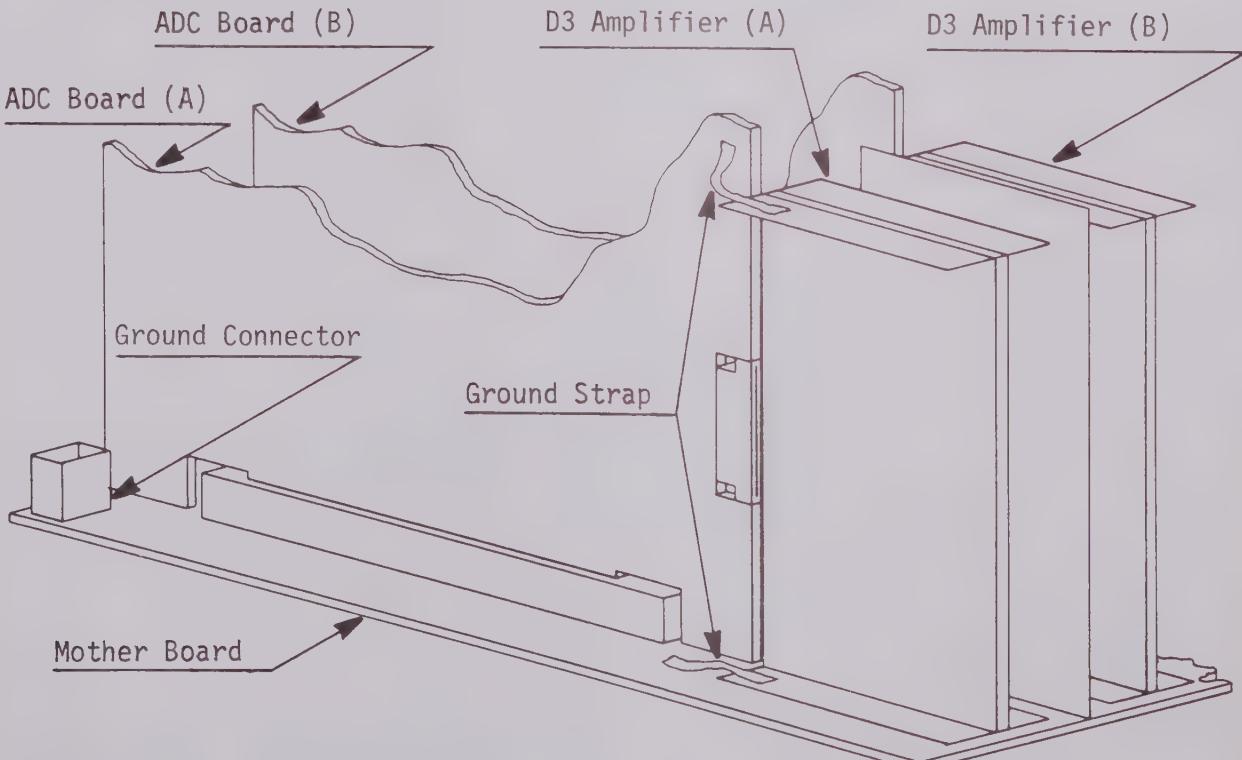


Figure 2

### 3.0 EXPLORER SET-UP PROCEDURE

The procedures have been outlined sequentially. Do not change any switch settings unless otherwise directed.

#### 3.1 MAIN FRAME CONTROLS

NOTE: Allow the oscilloscope to warm up for at least 15 minutes before proceeding with any alignment procedures.

Power On/Off:	ON
Vertical Expansion:	OFF
Horizontal Expansion:	OFF
Autocenter switch:	OFF
XY / YT switch:	YT
Function switch:	RESET NUMBERS
Memory switch:	ALL

#### 3.2 DISK DRIVE (Explorer III Models)

Track Protect switches:	Don't Care
Track Segment switch:	MAIN FRAME CONTROL (Full CCW)
Semi-Auto/Manual switch:	MANUAL

#### 3.3 206 PLUG-IN

Storage Control:	LIVE
Retain Reference:	OFF
Time Per Point:	500 nS
100 kHz Filter:	OFF
Channel A switch:	ON (Only if calibrating Channel A)
Channel B switch:	ON (Only if calibrating Channel B)
Trigger Mode:	AUTO
Trigger Slope:	-DC
Trigger Source:	Channel being calibrated. (See Note 1)
Trigger Threshold:	Adjust as required.
Range:	10V
Multiplier:	X2
(-) Input BNC	GND

NOTE 1: If the function generator has a sync output, connect it to the external trigger input BNC and then select EXT as the trigger source.

#### 4.0 VOLTAGE CHECK

1. Multimeter range: 0-20 VDC
2. Connect the multimeter to the +5VTP. (See Figure 4)
- a. Adjust R7 for +5 VDC  $\pm$  1%. (See Figure 3)

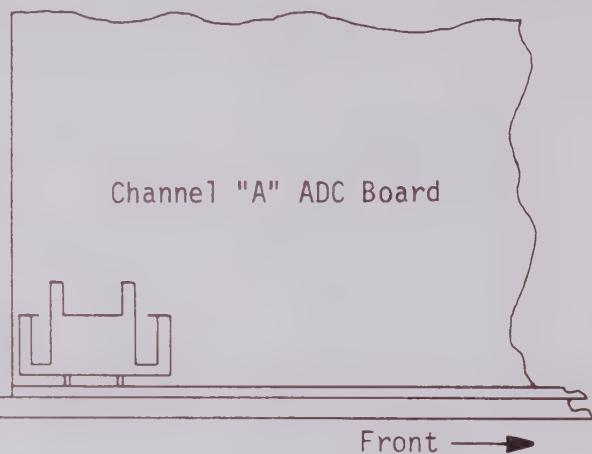
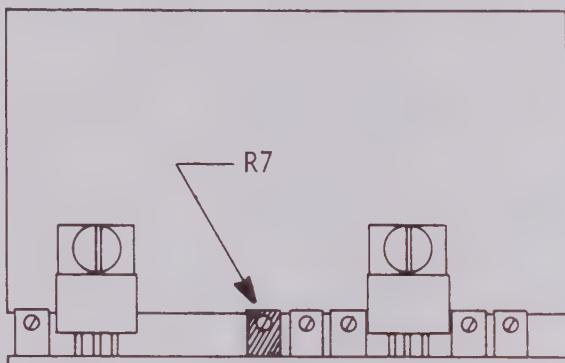


Figure 3

3. Multimeter range: 0-40 VDC
4. Connect the multimeter to +25VTP. (See Figure 4)
  - a. Adjust R72 for +25 VDC  $\pm$  1%.
5. Connect the multimeter to -25VTP. (See Figure 4)
  - a. Adjust R74 for -25 VDC  $\pm$  1%.
6. Multimeter range: 0-20 VDC
7. Connect the multimeter to +8VTP. (See Figure 4)
  - a. Record reading.
8. Connect the multimeter to -8VTP. (See Figure 4)
  - a. Adjust R100 for a reading equal to the magnitude of the +8 VDC recorded in Step 7,  $\pm$  1%. (See Figure 4)

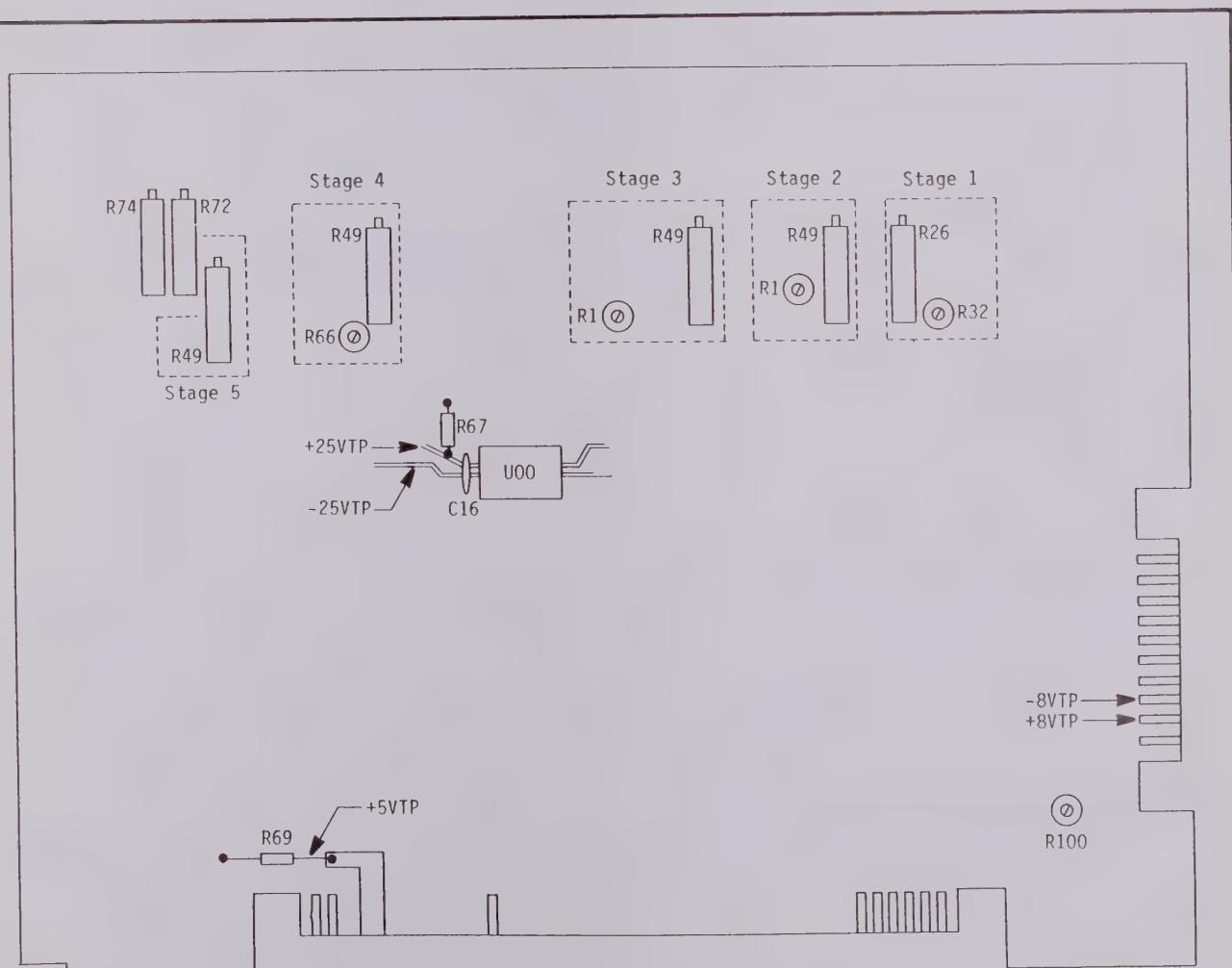


Figure 4 - Model 206 "ADC" Board

## 5.0 GAIN & OFFSET ADJUSTMENTS

An analog-to-digital converter (ADC) normally generates a series of incrementally increasing output voltages (digital outputs) when a gradually increasing voltage (analog signal) is applied to its input.

Discontinuities in the digital output signal will occur when misalignments of the Gain (Figure 5) and/or Offset (Figure 6) are present.

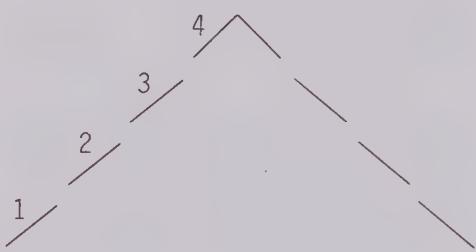


Figure 5 - Misaligned Gain

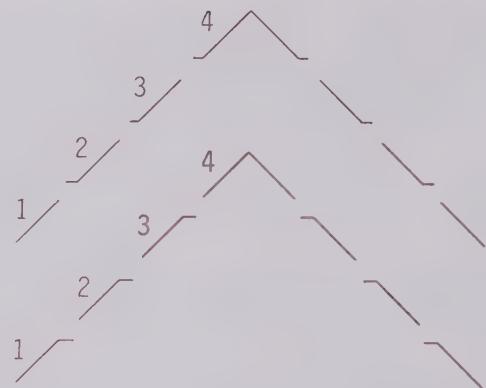


Figure 6 - Misaligned Offset

### 5.1 INITIAL SET-UP PROCEDURE

1. Multiplier Range: 1V
2. Range: X2
3. 100 kHz Filter switch: ON
4. Vertical Expansion switch: X32
5. Connect the signal generator to the input BNC of the channel to be aligned.
6. Signal Generator output: Triangle waveform
  - a. Adjust the waveform frequency for a one period display.
  - b. Adjust the waveform amplitude for a full screen display.

NOTE: It may be necessary to reposition the display by operating the paddle switch adjacent to the Vertical Expansion switch.

## 5.2 GAIN & OFFSET TESTS

1. DC Level adjust: Full CCW
2. Slowly adjust the DC Level control toward the full CW position.
  - a. Observe the waveform for separations similar to those illustrated in Figure 5 (Misaligned Gain) and/or Figure 6 (Misaligned Offset).
    - If a linear waveform is observed, repeat Procedures 5.1 and 5.2 for Channel B and then advance to Procedure 6.0 (Balance Adjust) if the waveform is linear.
    - If separations are observed, note which variation(s) (Gain and/or Offset) and repeat Procedures 5.1 and 5.2 for Channel B before proceeding to Procedure 5.3.

## 5.3 EXPLORER DISASSEMBLY

**WARNING:** All power must be removed from the oscilloscope before continuing with this procedure.

1. Unplug the Ground Connector. See Figure 2.

**NOTE:** It is not necessary to reconnect the ground after the module has been removed from the oscilloscope.

2. With a 5/64 Allen wrench, remove the four corner screws (located on the front panel) securing the input module and slide the module halfway out of the oscilloscope.
3. Disconnect the ribbon cable from the rear of the input module.
4. Slide the input module the rest of the way out and set it to the left side of the oscilloscope.

**WARNING:** Place the input module on a non-conductive workbench free of metal such as solder splashes.

5. Reconnect the ribbon cable to the input module.
6. Reapply power to the oscilloscope.

## 5.4 GAIN ADJUSTMENTS

NOTE: The channel "A" ADC board must be removed if the GAIN trimpot(s) on the channel "B" ADC board require adjustment.

**WARNING:** Remove all power from the oscilloscope before removing the channel "A" ADC board.

1. DC Level control: Adjust fully CCW
  - a. Slowly adjust the DC Level control in the CW direction until a full screen triangle waveform appears.
2. Slowly adjust the Stage 4 - R66 trimpot (Figure 4) until a separation appears on the waveform.
  - a. Readjust the trimpot for the best linear waveform.
3. Repeat Step 2. Use trimpot (Stage 3 - R1)
4. Repeat Step 2. Use trimpot (Stage 2 - R1)
5. Repeat Step 2. Use trimpot (Stage 1 - R32)

NOTE: The DC Level control may require additional adjustment to isolate each separation as the trimpots are adjusted.

## 5.5 OFFSET ADJUSTMENTS

NOTE: The input module slide rail may require removal if the GAIN trimpot(s) on the channel "B" ADC board require adjustment.

**WARNING:** Remove all power from the oscilloscope before removing the rail.

1. DC Level control: Adjust fully CCW
  - a. Slowly adjust the DC Level control in the CW direction until a full screen triangle waveform appears.
2. Slowly adjust the Stage 5 - R49 trimpot (Figure 4) until a separation appears on the waveform.
  - a. Readjust the trimpot for the best linear waveform.
3. Repeat Step 2. Use trimpot (Stage 4 - R49)
4. Repeat Step 2. Use trimpot (Stage 3 - R49)
5. Repeat Step 2. Use trimpot (Stage 2 - R49)

2. Repeat Step 2. Use trimpot (Stage 1 - R26)

NOTE: The DC Level control may require additional adjustment to isolate each separation as the trimpots are adjusted.

#### INPUT MODULE REASSEMBLY

NOTE: Remove all power from the oscilloscope before continuing.

1. Replace the input module slide rail if it was removed during Procedure 5.5.
2. Replace the channel 'A' ADC board if it was removed during Procedure 5.4.
3. Disconnect the ribbon cable from the rear of the input module.
4. Slide the input module halfway into the oscilloscope and reconnect the ribbon cable to the rear of the input module.
5. Slide the input module the rest of the way into the oscilloscope and then reconnect the ground to the Ground Connector.

#### GAIN & OFFSET ALIGNMENT CONFIRMATION

1. Replace the left side cover on the oscilloscope.
2. Apply power to the oscilloscope and allow it to warm up for 15 minutes.
3. With the triangle waveform still applied to the oscilloscope, slowly adjust the DC Level control from fully CCW to fully CW and observe the waveform for separations. Repeat for the other channel.
  - a. Repeat Procedure 5.0 thru 5.7 if necessary.
4. Remove signal generator from input BNC.

#### SUMMARY OF GAIN & OFFSET TRIMPOTS

STAGE	GAIN TRIMPOTS	OFFSET TRIMPOTS
5	None	Stage 5 - R49
4	Stage 4 - R66	Stage 4 - R49
3	Stage 3 - R1	Stage 3 - R49
2	Stage 2 - R1	Stage 2 - R49
1	Stage 1 - R32	Stage 1 - R26

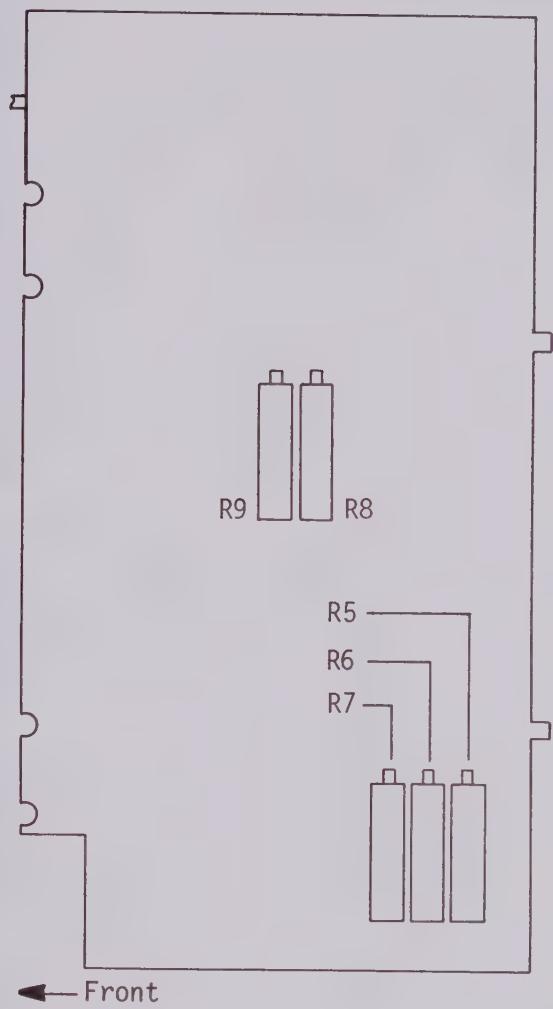
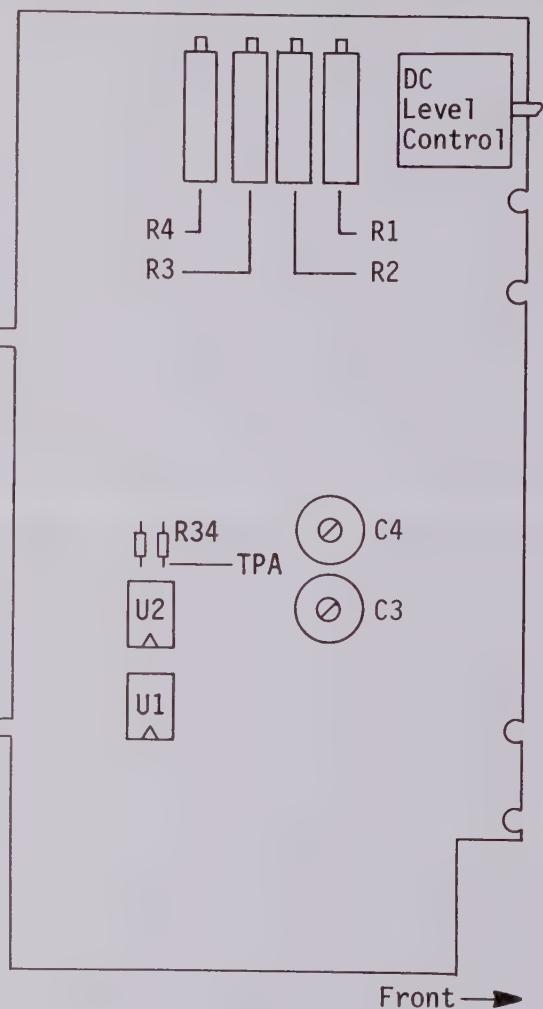
## 6.0 BALANCE ADJUSTMENTS

### 6.1 1V & 100 mV RANGE BALANCE

1. Adjust R6 (Figure 8) for zero volts at TPA (Figure 7).
  2. Vertical Expansion switch: OFF
  3. Range Multiplier: X1
  4. Ground the (+) input BNC.
  5. DC Level control: Adjust trace to center of screen.
  6. Vertical Expansion switch: X32
  7. Autocenter switch: ON, then OFF  
Range: 100 mV
    - a. Observe trace for vertical shift.
    - b. Adjust R5 (Figure 8) until the trace is aligned with the horizontal marker line.
- NOTE: Make the first adjustment without vertical expansion if the shift is excessive.
8. Range: 1V
  10. Repeat Steps 6 thru 8 until minimum shifting is achieved.

### 6.2 X1 & X2 MULTIPLIER BALANCE

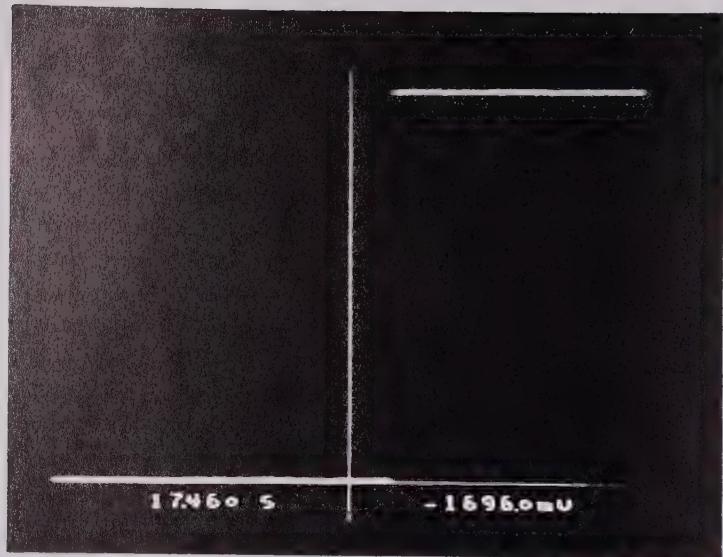
1. Range Multiplier: X2
  2. Autocenter switch: ON, then OFF
  3. Range Multiplier: X1
    - a. Observe trace for vertical shift.
    - b. Adjust R4 (Figure 7) until the trace is aligned with the horizontal marker line.
- NOTE: Make the first adjustment without vertical expansion if the shift is excessive.
4. Repeat Steps 1 thru 3 until minimum shifting is achieved.
  5. Range Multiplier: Switch between X1, X2 and X4.
    - a. Repeat Procedure 6.2 if necessary.
- Remove ground from the (+) input BNC.



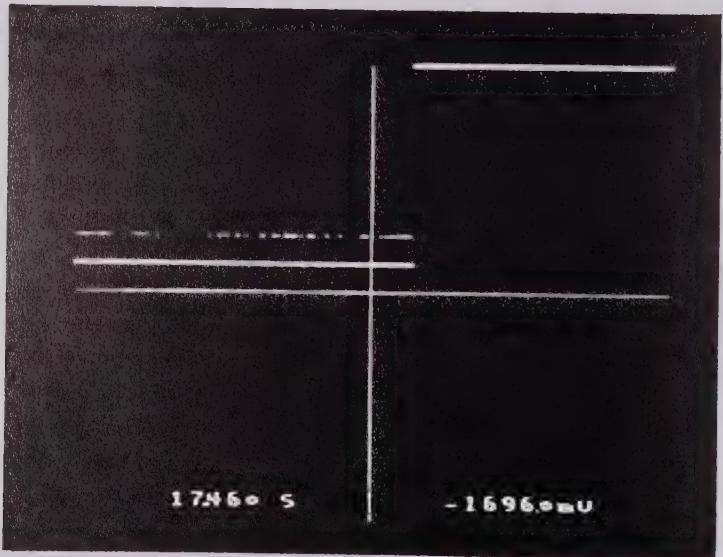
## 7.0 GAIN CALIBRATION

### 7.1 1V RANGE

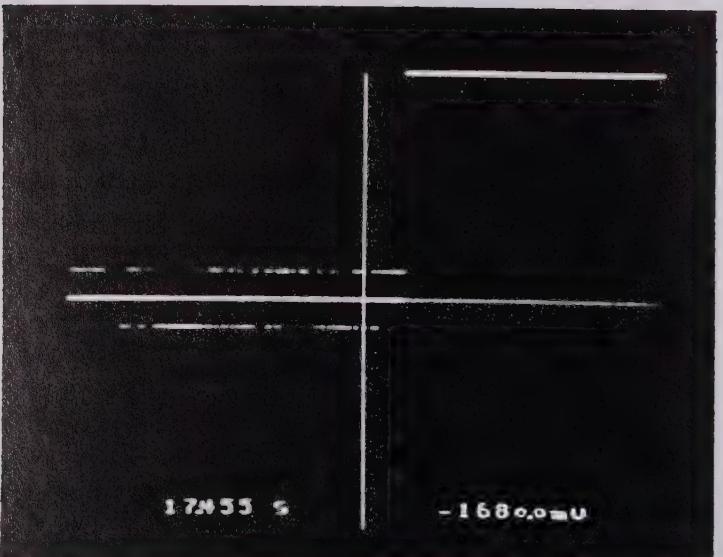
1. Memory switch: Q1
2. Filter switch: ON
3. Time Per Point: 5 mS
4. Autocenter switch: OFF
5. Vertical Expansion switch: OFF
6. Range Multiplier: X1
7. Range: 1V
8. Signal Generator output: 0.2 Hz Square wave
  - a. Adjust for a 3/4 full screen display.  
NOTE: The Offset and Trigger Level controls may require adjustment.
9. Multimeter range: 0-4V
10. Apply same square wave square to multimeter.
11. Record both (+) and (-) multimeter readings and ADD absolute values to obtain the peak-to-peak voltage.



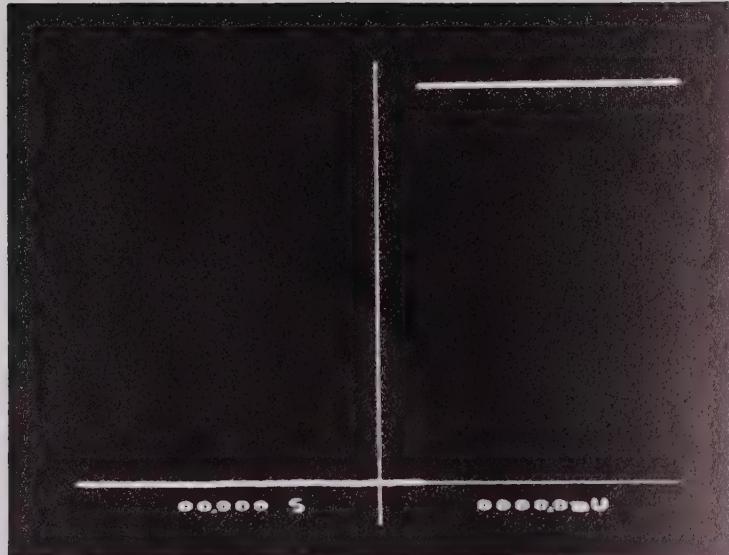
12. Depress the HOLD NEXT pushbutton.
  - a. Wait until the waveform has been stored. (Hold Last led lit only.)



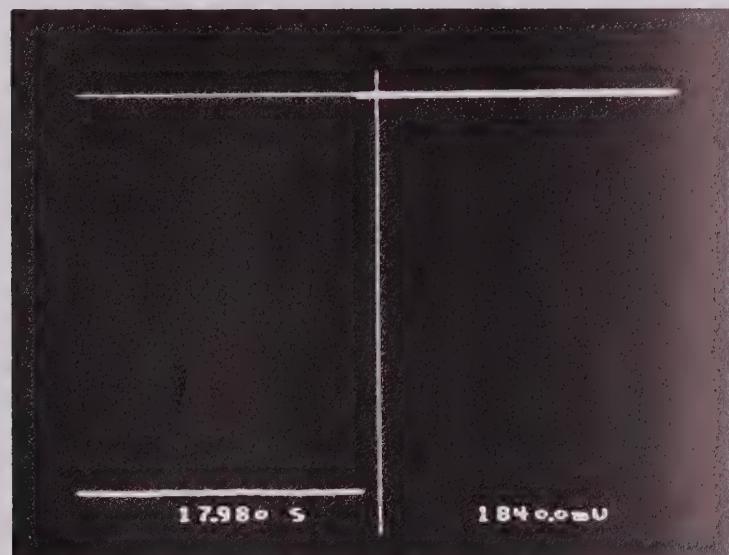
13. Autocenter switch: ON
14. Vertical Expansion switch: X64



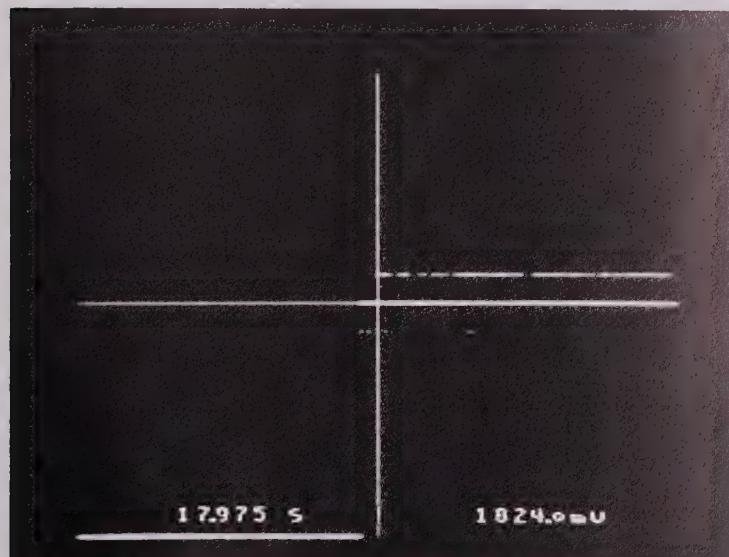
15. Several levels of data points will be displayed due to a certain amount of "noise." Select the level with the majority of data points by moving the horizontal marker line.



16. Vertical Expansion switch: OFF
17. Function switch: RESET
18. Depress the Execute button.
  - a. Time and voltage numerics indicate zero.



19. Position the vertical marker line to the opposite peak of the waveform.



20. Vertical Expansion switch: X64
21. Select the level with the majority of data points.
  - a. Record the peak-to-peak voltage displayed on the oscilloscope.

22. Compute the Percent Error.

a. The percent error should be less than 0.2%.

$$\text{Percent Error} = \left| \frac{\text{Multimeter } (V_{pp}) - \text{Scope } (V_{pp})}{\text{Multimeter } (V_{pp})} \right| \times 100$$

23. Adjust R3 (Figure 7)

a. CW to increase. CCW to decrease.

24. Depress the LIVE pushbutton.

25. Vertical Expansion switch: OFF

26. Autocenter switch: OFF

27. Repeat Procedure 7.1, Steps 12 thru 26 until percent error is less than 0.2%.

## 7.2 2V, 4V, 100 mV & 10V RANGES

Repeat Procedure 7.1 (1V Range) for each of the Range Calibrations and substitute the steps listed in the table below.

RANGE TO BE CALIBRATED	STEP 6	STEP 7	STEP 9	STEP 23
	Range Multiplier	Range	Multimeter Range	Trimpot
2V	X2	1V	0-4V	R2
4V	X4	1V	0-10V	R1
100 mV	X1	100 mV	0-200 mV	R7
10V	X1	10V	0-40V	R9

NOTE: Disconnect the multimeter when the Range Calibrations have been completed.

## 8.0 -10V RANGE ADJUSTMENT

1. Time Per Point: 500 nS

2. Memory switch: ALL

3. Signal Generator output: 1 kHz Square wave

a. Adjust for a 3/4 full screen display.

NOTE: The Offset and Trigger Level controls may require adjustment.

4. Apply same signal to the (-) input BNC.

NOTE: The square wave signal must be applied to both the (+) and (-) input BNCs.

5. (-) Input switch: SIG

6. Vertical Expansion switch: X32

7. Autocenter switch: ON

8. Adjust R8 (Figure 8) for the best straight line.

#### 9.0 FREQUENCY COMPENSATION

1. Vertical Expansion switch: OFF

2. Autocenter switch: ON

3. (-) Input switch: GND

4. Filter switch: OFF

5. Signal Generator output: 10 kHz Square wave

6. Apply square wave signal to the (+) input BNC using the Frequency Compensation network illustrated in Figure 1.

a. Adjust for a 3/4 full screen display.

7. Vertical Expansion switch: X32

8. Horizontal Expansion switch: X16

9. Adjust C4 (Figure 7) for minimum overshoot or undershoot on the negative portion of the waveform.

10. Vertical Expansion switch: OFF

11. Disconnect signal from the (+) input BNC.

12. Ground the (+) input BNC.

13. (-) Input switch: SIG

14. Apply square wave signal to the (-) input BNC using the Frequency Compensation network.

a. Adjust for a 3/4 full screen display.

15. Vertical Expansion switch: X32

16. Adjust C3 (Figure 7) for minimum overshoot or undershoot on the negative portion of the waveform.

## DISPLAY ALIGNMENT

### TRIM POTS ACCESS

The display trim pots are accessible from the bottom of the oscilloscope. Refer to Figure A-1.

**WARNING:** High voltages exist in the oscilloscope. Use care during the following procedures.

### ALIGNMENT PROCEDURE

It is recommended that the following alignment procedure be followed in the sequence as listed. Perform the alignment(s) if required.

1. Ground all (+) and (-) input BNC's.
2. Switch the FUNCTION selector to the ERASE position (spring loaded) and depress the EXECUTE pushbutton.
3. HORIZONTAL ROTATE: Rotates the entire display with the screen center acting as the pivot point.
  - a. Adjust until the vertical marker line is straight up and down.
4. VERTICAL ROTATE: Rotates the entire display with the left side of the screen acting as the pivot point.
  - a. Adjust until the horizontal marker line is level.
5. HORIZONTAL CENTER: Positions the display either left or right.
  - a. Adjust until the horizontal marker line is evenly centered on the screen.
6. HORIZONTAL GAIN: Expands or contracts the display in the horizontal plane.
  - a. Adjust until both ends of the horizontal marker line are approximately 3/16" from the sides of the screen.
7. VERTICAL CENTER: Positions the display either up or down.
  - a. Adjust until the vertical marker line is approximately 1/4" from the top of the screen.
8. VERTICAL GAIN: Expands or contracts the display in the vertical plane.
  - a. Adjust until the vertical marker line is approximately 1/8" from the bottom of the screen.
  - b. Repeat Step 7 and 8 until the vertical marker line is approximately 1/4" from the bottom of the screen.

9. ASTIGMATISM: Adjust the sharpness of the display and is used in conjunction with the FOCUS adjustment located on the rear panel.
- Adjust the Astigmatism trimpot for a sharp vertical marker line.
  - Adjust the FOCUS control for a sharp horizontal marker line.

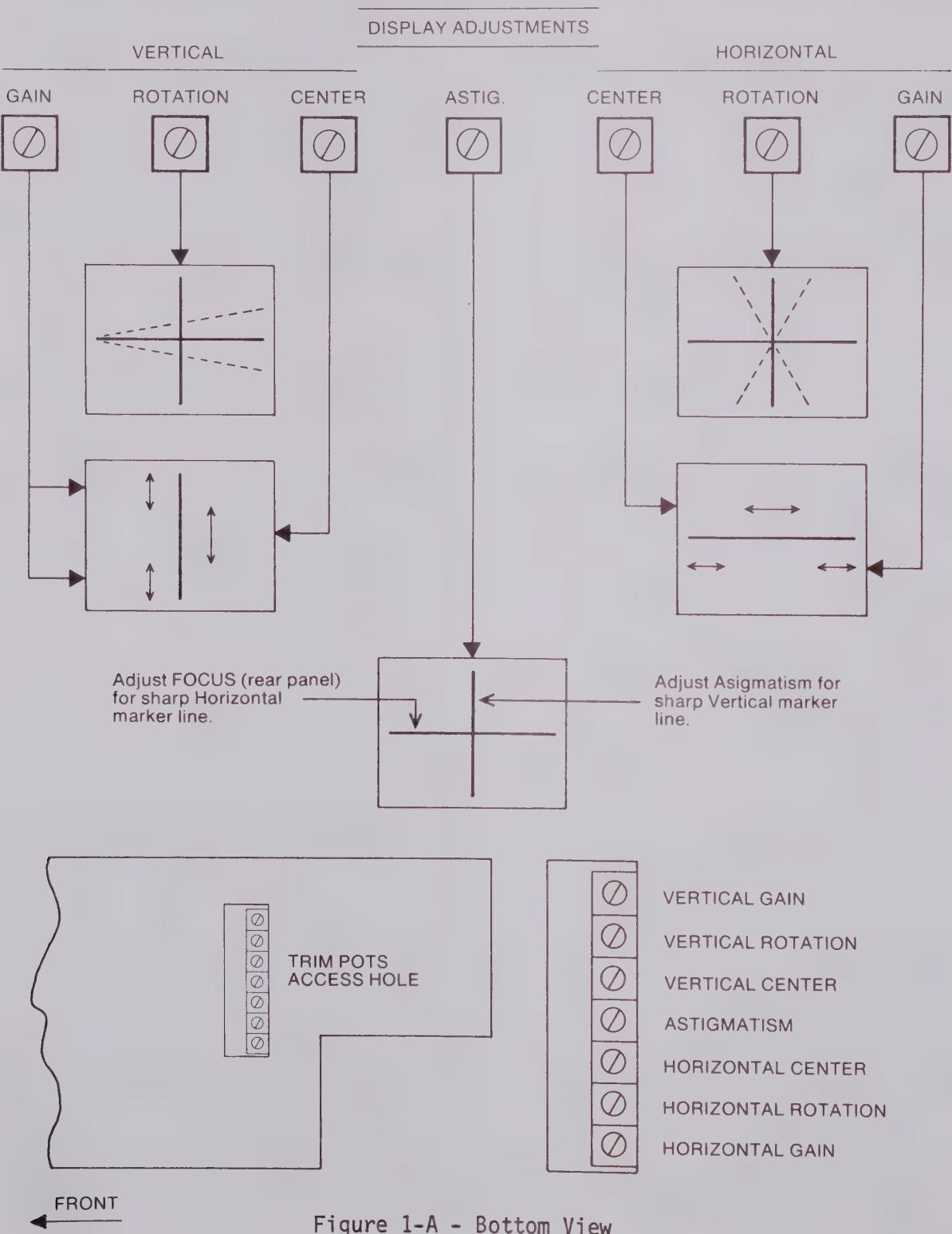


Figure 1-A - Bottom View

## FOCUS AND INTENSITY CONTROLS

The Focus and Intensity controls are located on the rear panel.

● FOCUS: The Focus control is used in conjunction with the Astigmatism trimpot described above in Step 9.

● INTENSITY: The Intensity control brightens or darkens the display. This control may be adjusted, when using the scope camera, to permit optimum results while capturing displays on film.

## MAINTENANCE

The following guidelines should be observed when cleaning the Explorer.

● SCOPE FACE: Clean the display face with a slightly damp, soft cloth.

● CABINET: Clean the external surfaces with a slightly damp, soft cloth using a mild detergent.

● AIR FILTER: The dust filter on the rear panel should be inspected at regular intervals and cleaned whenever an accumulation of dust appears.

To clean the filter: Remove the four retaining screws, remove the surface dust with either compressed air or a soft-bristle brush. Reinstall the filter.



)

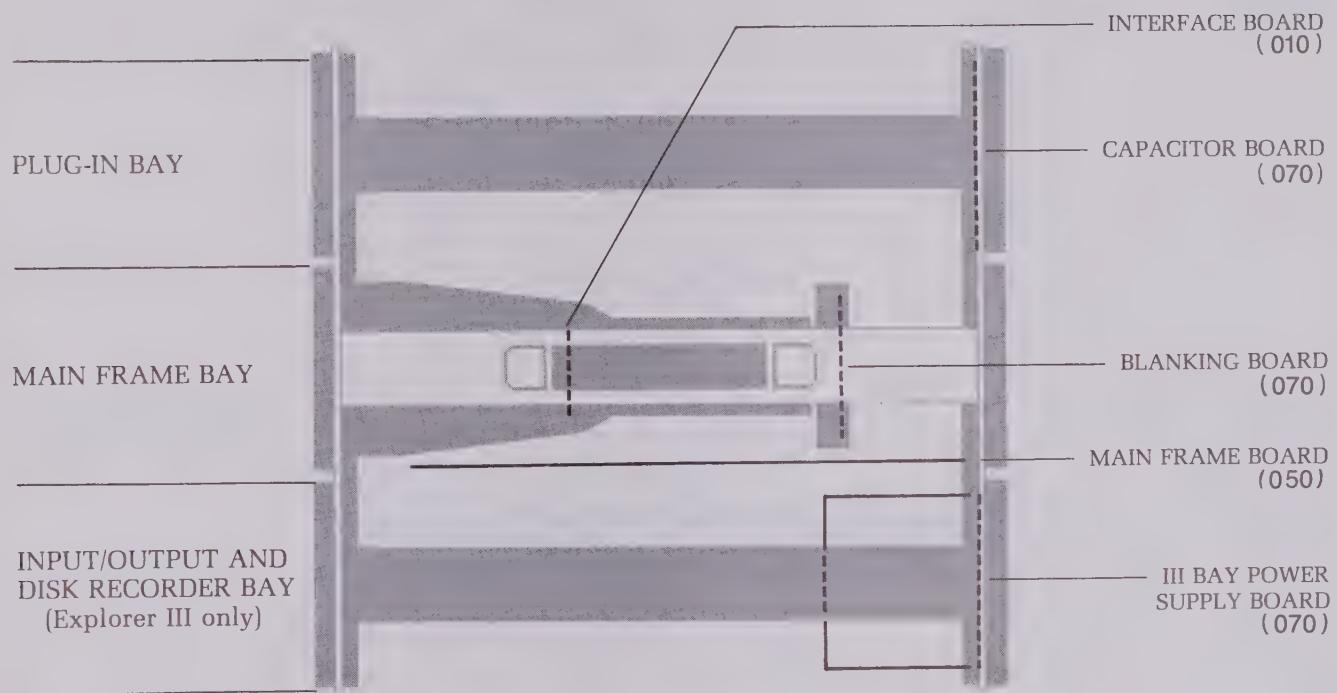
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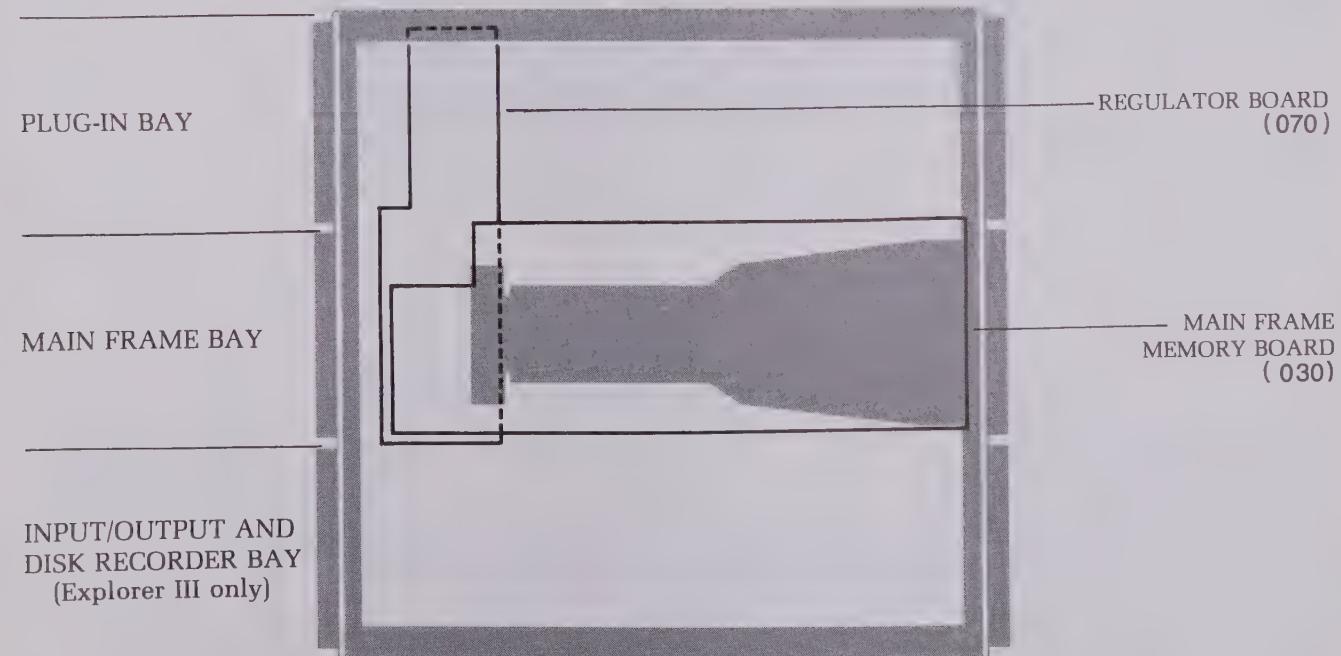


## MAIN FRAME

(Diagram pages in parentheses)

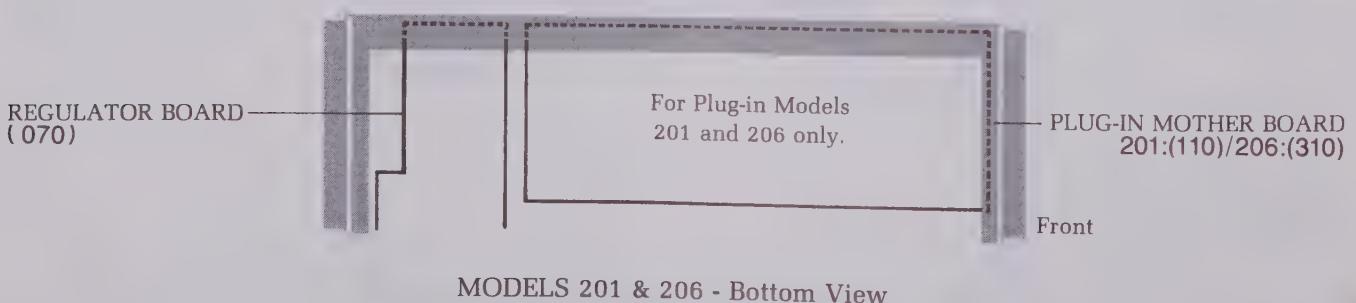
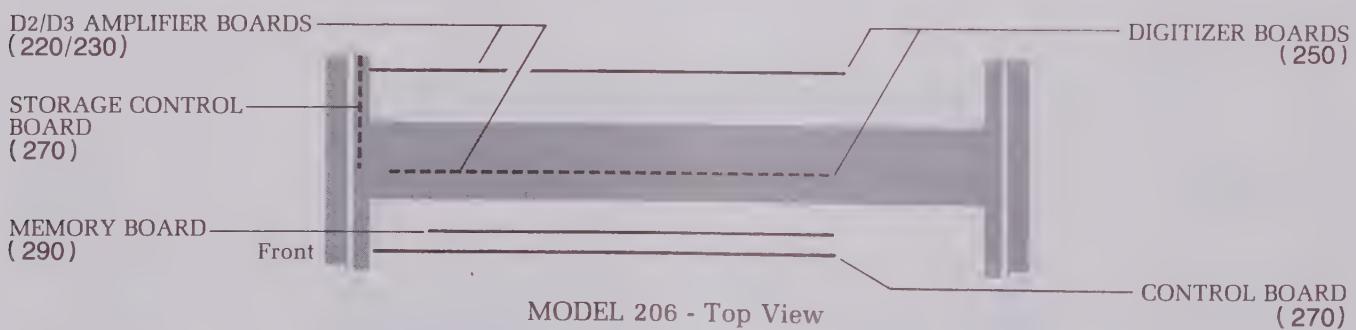
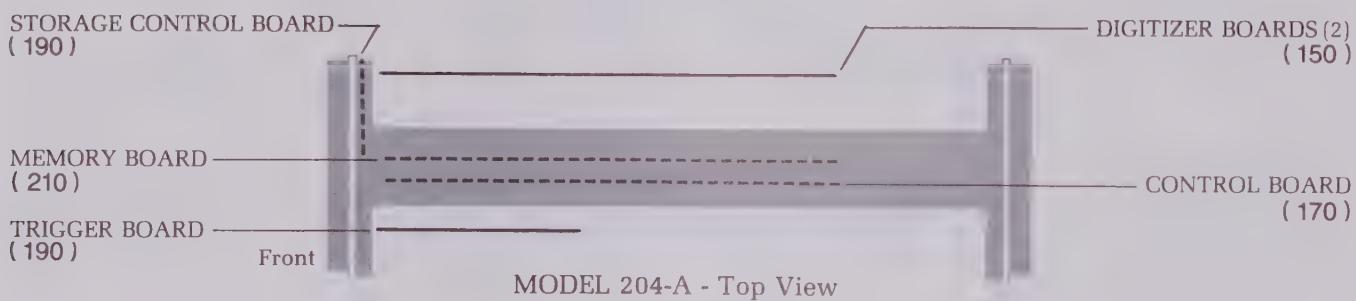
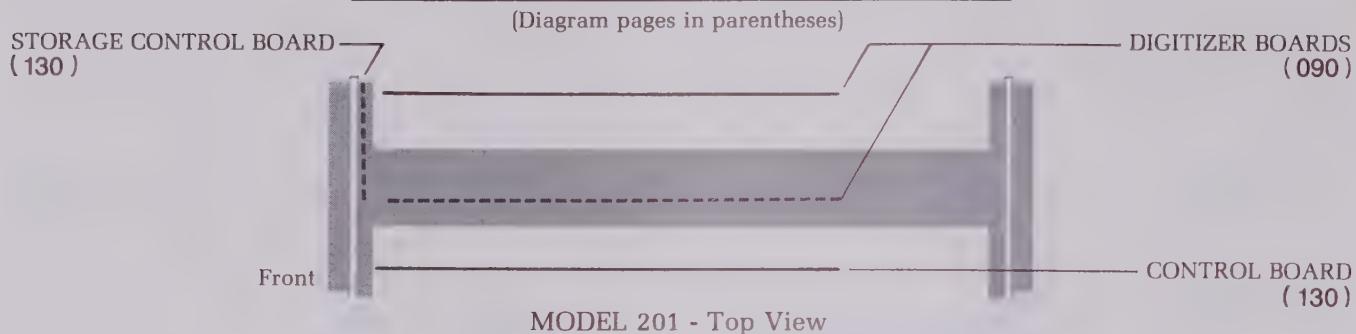


EXPLORER III - Top View



EXPLORER III - Bottom View

## PLUG-IN BAY

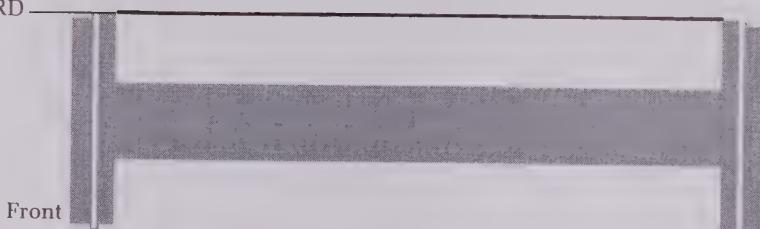


## **INPUT/OUTPUT•DISK RECORDER BAY**

### **Model 2090-3 Configurations**

(Diagram pages in parentheses)

INPUT/OUTPUT BOARD  
( 330 )



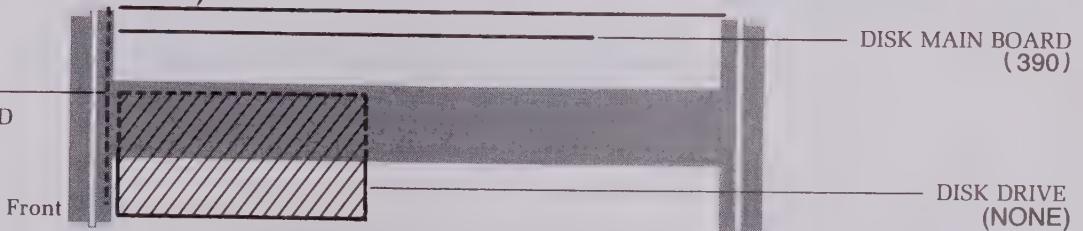
MODEL 2090-3A - Top View

DISK Without  
INPUT/OUTPUT BOARD  
( 350 )



MODEL 2090-3B - Top View

INPUT/OUTPUT BOARD  
( 330 )



MODEL 2090-3C - Top View

INPUT/OUTPUT CARD  
( 330 )



MODELS 2090-3A/3C - Bottom View

## INPUT/OUTPUT•DISK RECORDER BAY Accessories 2081 • 2082 • 2085N • 003

(Diagram pages in parentheses)

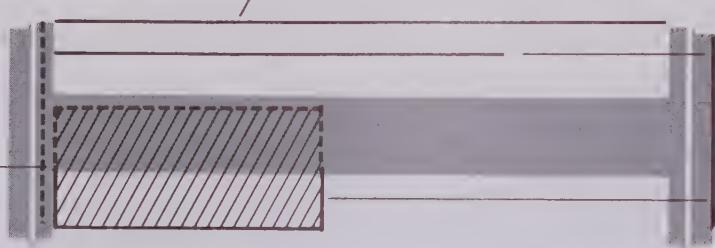
INPUT/OUTPUT BOARD  
( 330 )



See Table

With 3A Configuration - Top View

INPUT/OUTPUT BOARD  
( 330 )



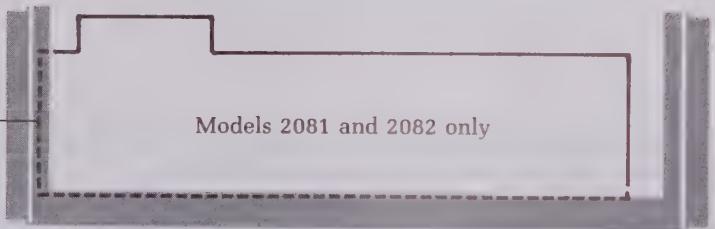
See Table

DISK MAIN BOARD  
( 390 )

DISK DRIVE  
(NONE)

With 3C Configuration - Top View

INPUT/OUTPUT CPU  
( 410 )



Models 2081 and 2082 only

Front

With 3A or 3C Configuration - Bottom View

INPUT/OUTPUT CARD  
( 330 )



Models 2085N and 003 only

Front

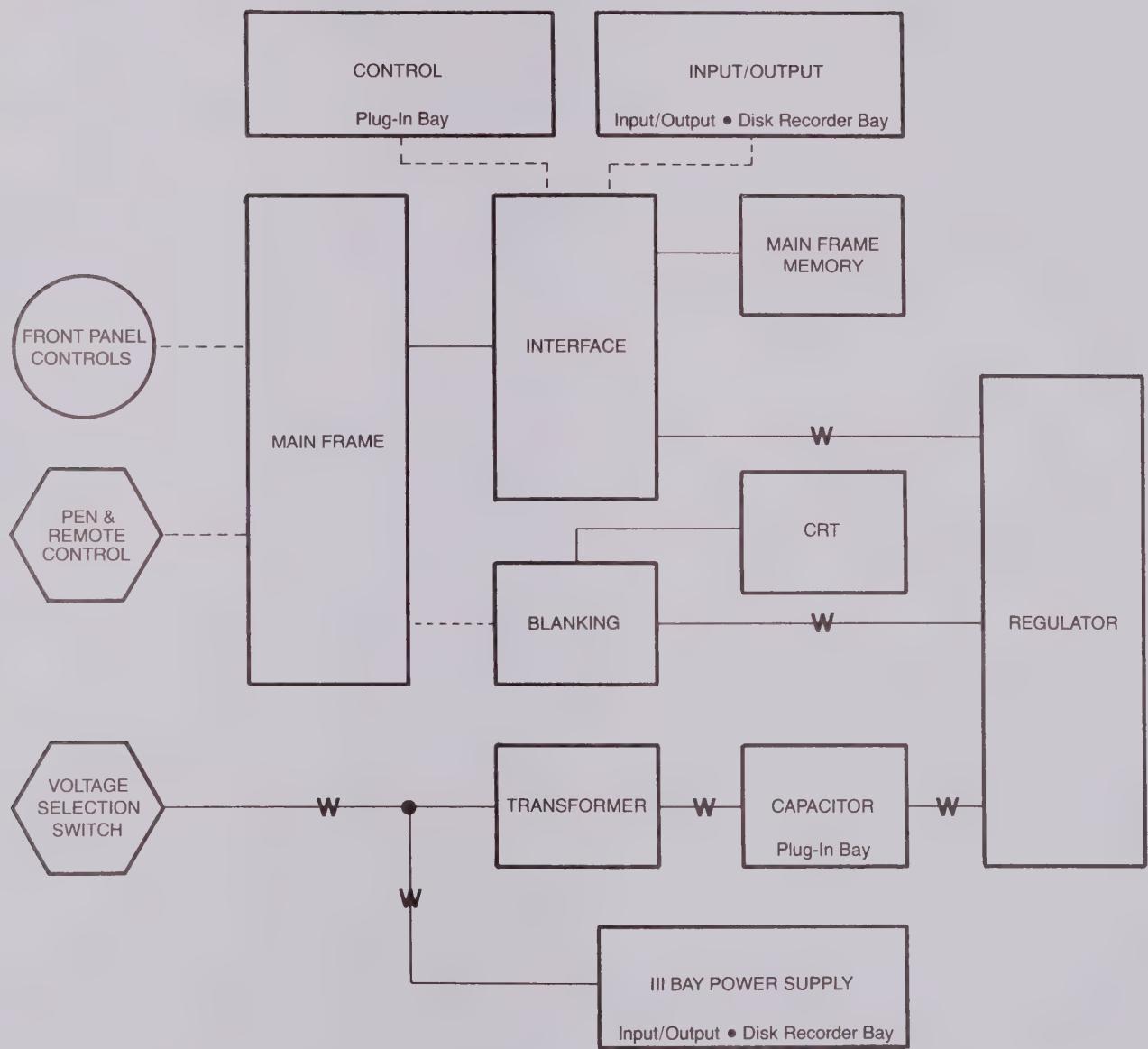
With 3A or 3C Configuration - Bottom View

MODEL NUMBER	BOARD	DIAGRAM PAGE
2081	GP-IB Board	( 420 )
2082	RS232C Interface	( 430 )
2085N	Calculator Interface	( 440 )
003	Input/Output Accessory Board	( 460 )





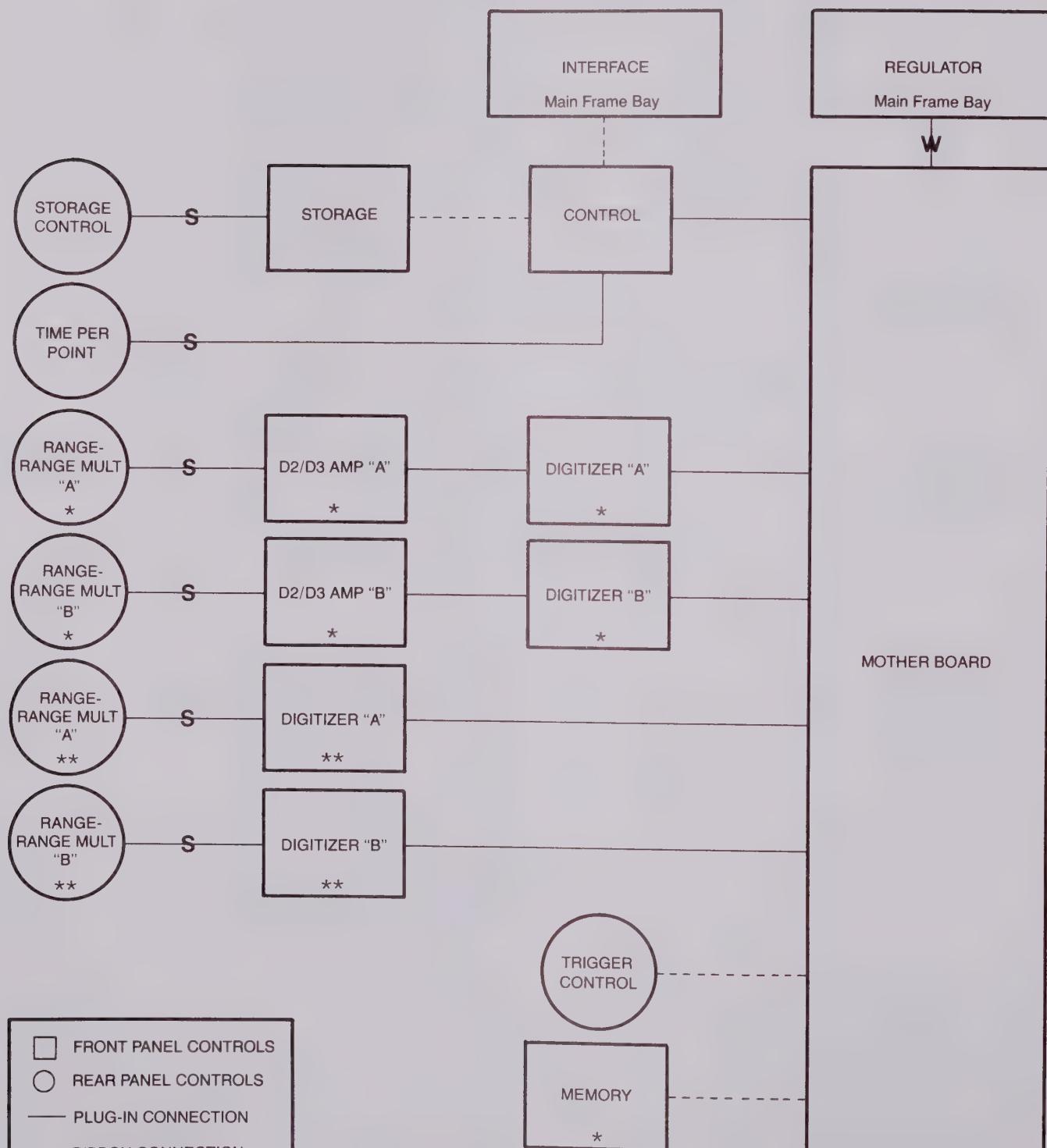
## MAIN FRAME



- |       |                        |
|-------|------------------------|
| □     | PRINTED CIRCUIT BOARDS |
| ○     | FRONT PANEL CONTROLS   |
| ○     | REAR PANEL CONTROLS    |
| —     | PLUG-IN CONNECTION     |
| - - - | RIBBON CONNECTION      |
| —W—   | WIRE CONNECTION        |
| —S—   | SOLDER CONNECTION      |

# PLUG-IN BAY

Models 201 & 206

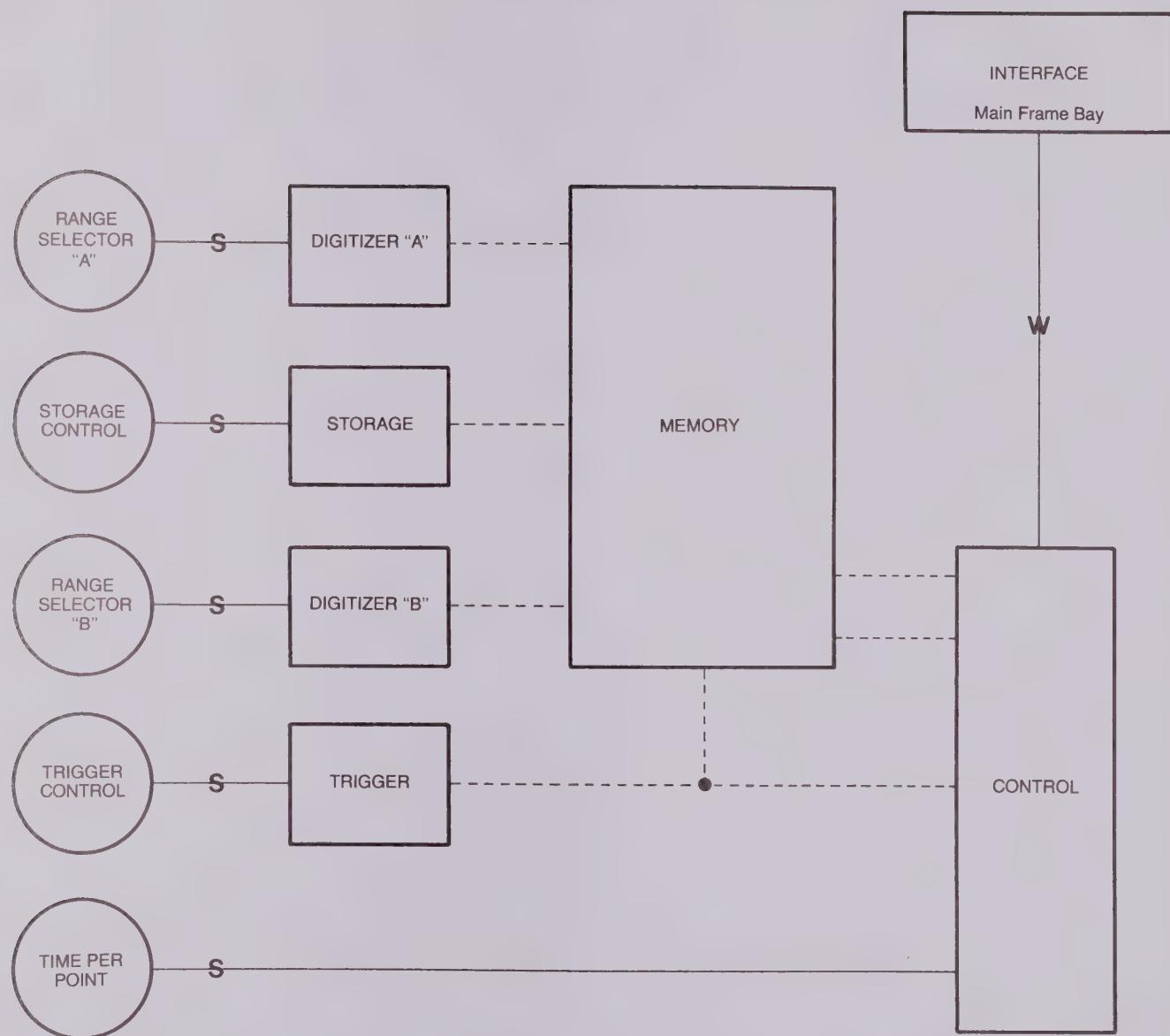


\* Model 206 only

\*\* Model 201 only

# PLUG-IN BAY

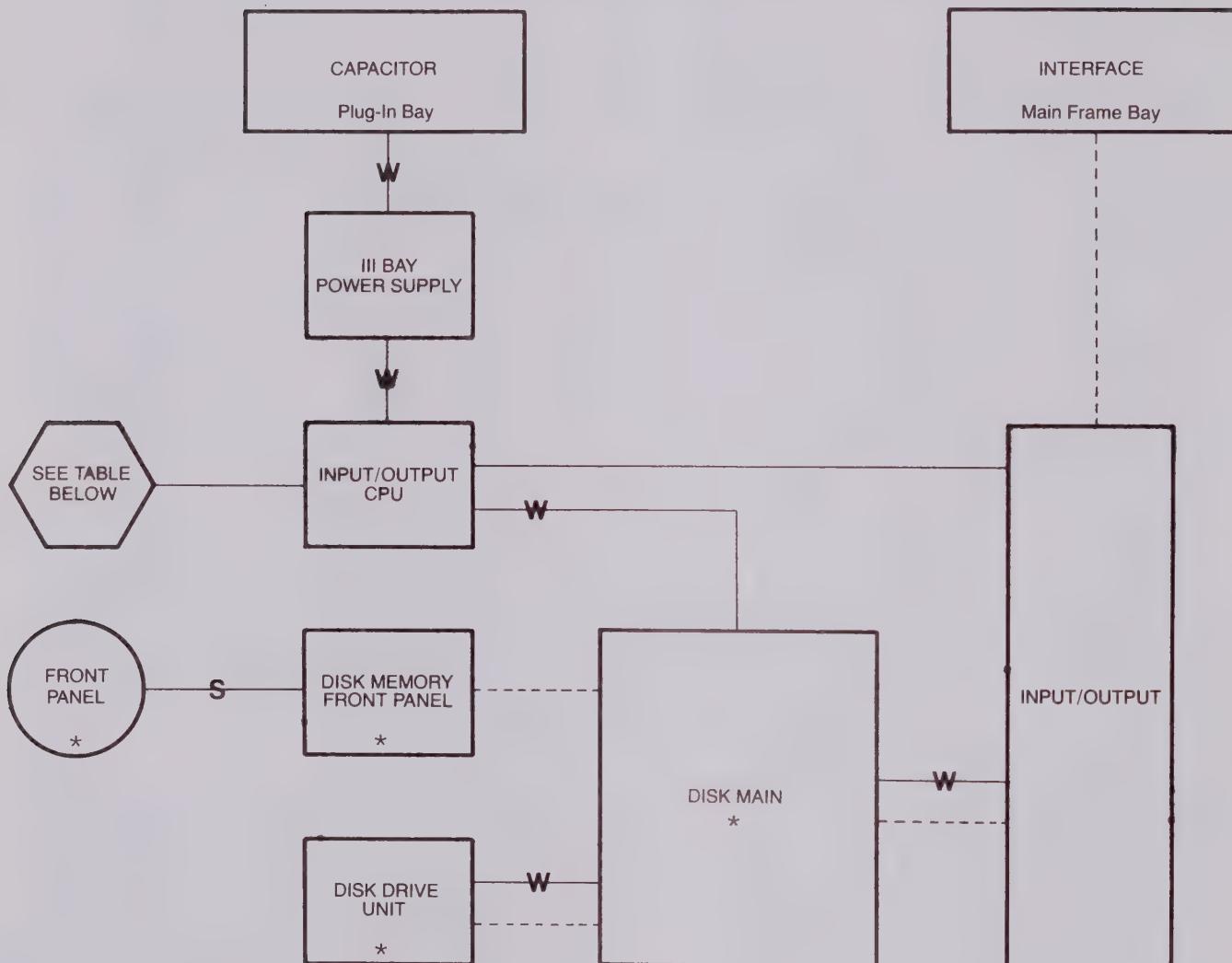
Model 204-A



- PRINTED CIRCUIT BOARDS
- FRONT PANEL CONTROLS
- PLUG-IN CONNECTION
- - - RIBBON CONNECTION
- W — WIRE CONNECTION
- S — SOLDER CONNECTION

## INPUT/OUTPUT • DISK RECORDER

With 3A/3C Configuration & 2081/2082 Interface



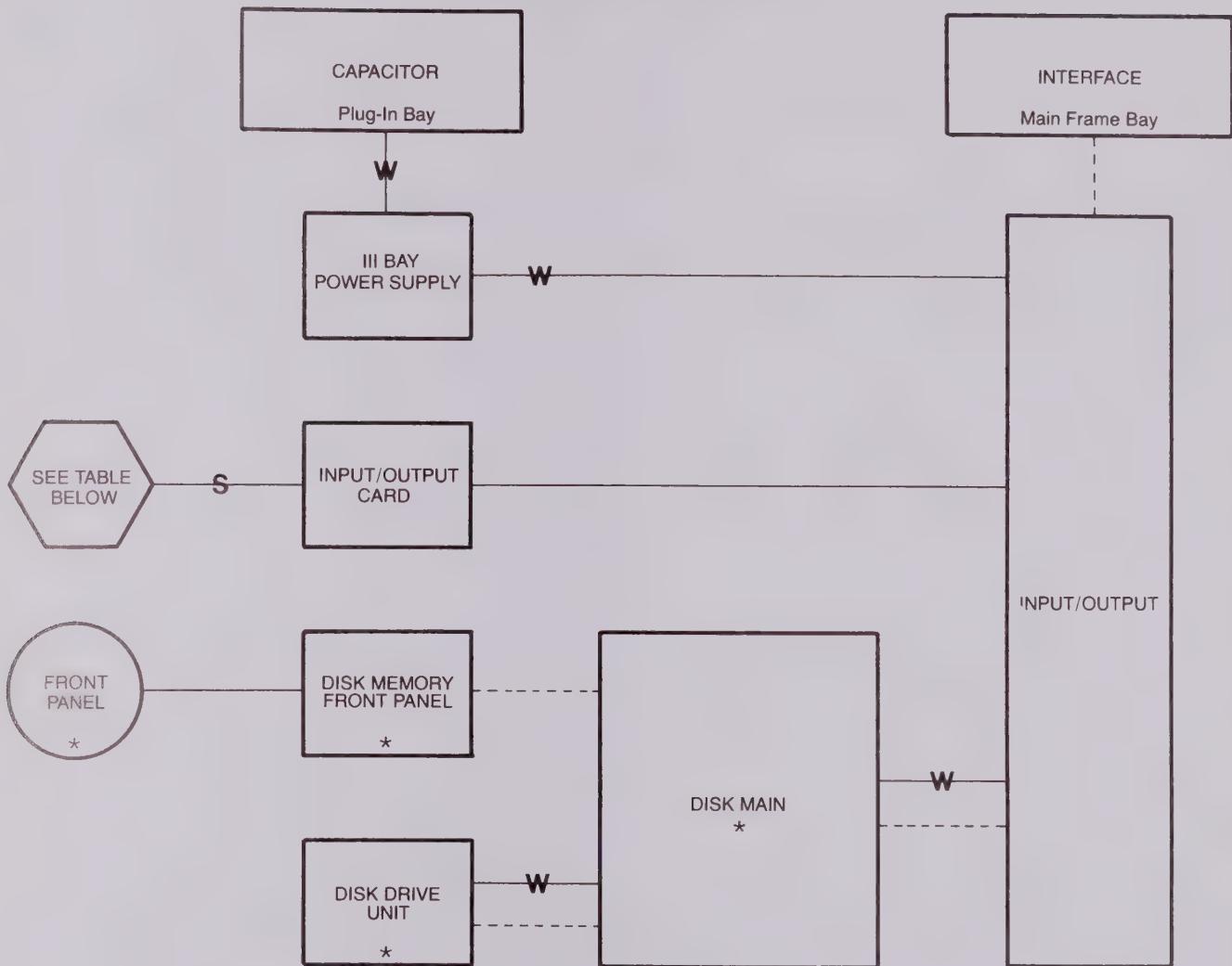
- PRINTED CIRCUIT BOARDS
- FRONT PANEL CONTROLS
- REAR PANEL CONTROLS
- PLUG-IN CONNECTION
- - - RIBBON CONNECTION
- W WIRE CONNECTION
- S SOLDER CONNECTION

\* 3C Configuration only

MODEL NUMBER	BOARD
2081	GP-1B Board
2082	RS232C Interface

# INPUT/OUTPUT • DISK RECORDER

With 3A/3C Standard Configuration



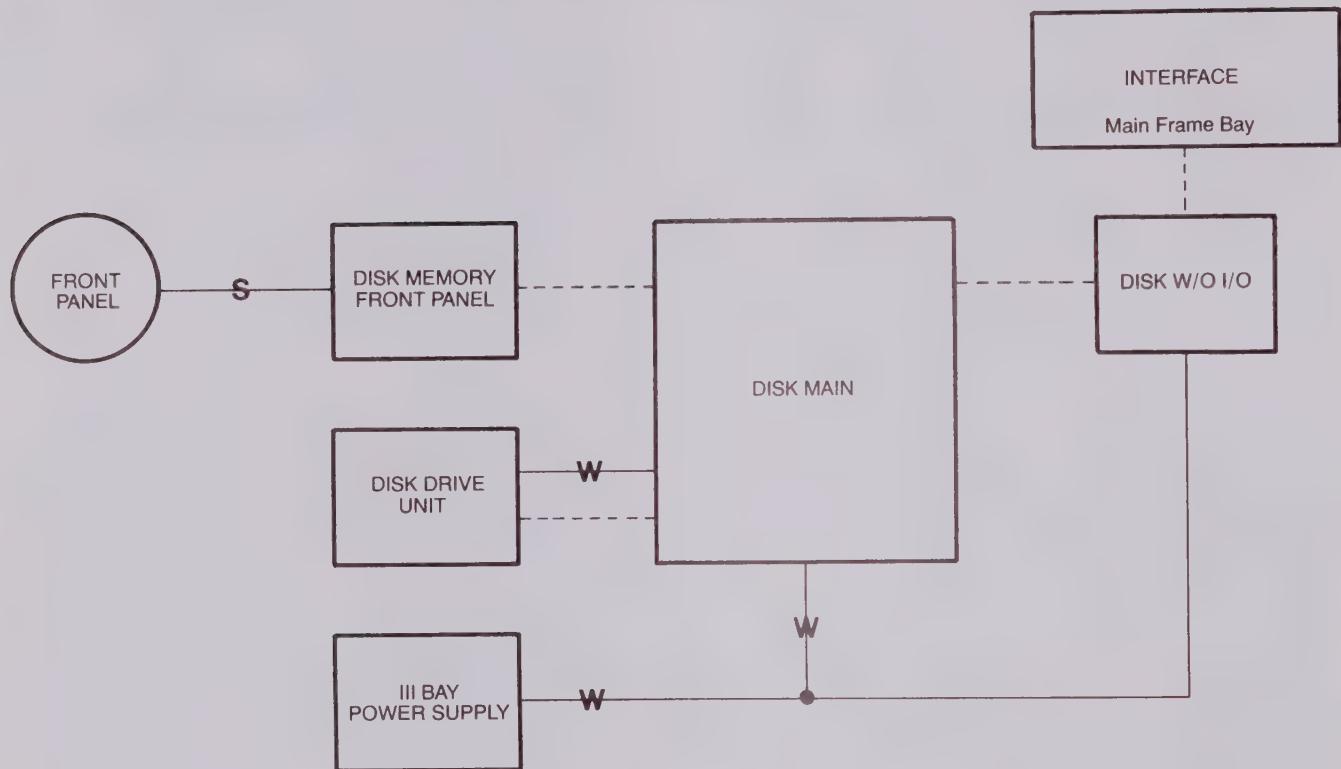
- PRINTED CIRCUIT BOARDS
- FRONT PANEL CONTROLS
- REAR PANEL CONTROLS
- PLUG-IN CONNECTION
- - - RIBBON CONNECTION
- W WIRE CONNECTION
- S SOLDER CONNECTION

\* 3C Configuration only

MODEL NUMBER	BOARD
2085N	Calculator Interface
003	Input/Output Accessory Cable

## INPUT/OUTPUT • DISK RECORDER

With 3B Configurations



- PRINTED CIRCUIT BOARDS
- FRONT PANEL CONTROLS
- PLUG-IN CONNECTION
- - - RIBBON CONNECTION
- W** WIRE CONNECTION
- S** SOLDER CONNECTION





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## MNEMONICS

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ADC	ANALOG-TO-DIGITAL CONVERTER	MEM	MEMORY
BD	BOARD	M.F.	MAIN FRAME
CNTL	CONTROL	M.F.F.P.	MAIN FRAME FRONT PANEL
CONN	CONNECTOR	M.F. BD	MAIN FRAME BOARD
EXT	EXTERNAL	PL	PLUG-IN
FLOPPY F.P.	FLOPPY FRONT PANEL	STR	STORAGE
F.P.	FRONT PANEL	TRIG	TRIGGER
I/O	INPUT/OUTPUT		

The following pages contain mnemonic listings to help identify the origins and destinations of specific signals labeled in the diagrams.

The word "same," under heading DESTINATION, indicates that the signal remains on the same board where the signal originated.

The listings above are common abbreviations used on the following pages.

MNEMONIC	NAME	ORIGINATES	DESTINATION
A TRIG	CHANNEL "A" INTERNAL TRIGGER	204A ADC	204A TRIG
AA	ADDRESS ADVANCE	I/O	SAME
AAS	ADVANCE SCRATCHPAD ADDRESS	201 CNTL	SAME
AC SW	AUTOCENTER SWITCH	M.F.F.P.	M.F.
AC1	ADDRESS CONTROL BIT 1	DISK MAIN	I/O
AC1	ADDRESS CONTROL BIT 1	I/O CPU ----- EXT CONN -----	I/O I/O
AC2	ADDRESS CONTROL BIT 2	DISK MAIN	I/O
AC2	ADDRESS CONTROL BIT 2	I/O ----- EXT CONN -----	I/O I/O
ADDQ	ADVANCE ADDRESS BY QUARTERS	I/O	SAME
ADD1	ADVANCE ADDRESS BY 1	I/O	SAME
AL	CHANNEL "A" LOWER 1K	204A MEM	SAME
AN2, 3, 6, 8	CHANNEL "A" NORMALIZATION BITS	204A ADC	204A MEM
ASA	ADVANCE SCRATCHPAD ADDRESS	206 CNTL	206 MEM
ASW	CHANNEL "A" ON/OFF SWITCH	206 STR CNTL ---- 204A MEM ----- 201 STR CNTL ----	206 CNTL SAME CNTL
ATN	ATTENTION	IEEE CONN	2081
ATNI	INTERNAL ATTENTION IN	2081	SAME
ATRK/RELSW	ADVANCE TRACK OR RELSW	EXT CONN	I/O
ATRK/RELSW	ADVANCE TRACK OR RELSW	I/O CPU	I/O
AU	CHANNEL "A" UPPER 1K	204A MEM	SAME
AUTO	AUTO TRIGGER MODE	206 F.P. ----- 204A CNTL ----- 201 MOTHER -----	206 MOTHER 204A TRIG SAME
AXA	ADVANCE PL ADDRESS COUNTER	206 CNTL	SAME
B SEL	SELECT CH "B" NORMALIZATION	201 CNTL	201 MOTHER
B TRIG	CHANNEL "B" INTERNAL TRIGGER	204A ADC	204A TRIG
BC0 thru BC2	BUSS CONTROL BITS 0 THRU 2	M.F.	SAME
BL	CHANNEL "B" LOWER 1K	204A MEM	SAME
BLANK	DISPLAY BLANKING	M.F.	BLANKING
BN2, 3, 6, 8	CHANNEL "B" NORMALIZATION BITS	204A ADC	204A MEM
BSW	CHANNEL "B" ON/OFF SWITCH	206 STR CNTL ---- 204A MEM ----- 201 STR CNTL ----	206 CNTL SAME 201 CNTL
BU	CHANNEL "B" UPPER 1K	204A MEM	SAME
BUSS 0 thru 11	MAINFRAME BUSS	M.F.	M.F. MEM

MNEMONIC	NAME	ORIGINATES	DESTINATION
BUSSO THR 11	PLUG-IN BUSS	PL CNTL ----- I/O -----	M.F. MEM M.F. MEM
CFFJ	CLEAR FLIP FLOP JUMP	I/O	SAME
CI	CARRY IN	M.F.	SAME
CIL	CLOCK INPUT LATCH	I/O	SAME
CLOK A	M.F. ADDRESS CLOCK	M.F.	SAME
CLOK XA	PLUG-IN ADDRESS CLOCK	PL CNTL ----- 204A CNTL ----- 206 CNTL ----- 201 CNTL -----	I/O M.F. MEM M.F. MEM M.F. MEM
CLOK 1	CLOCK 1 (4MHZ)	PL CNTL	M.F. MEM
CLOK 1 13	CLOCK 1 (4MHZ)	206 CNTL	SAME
CLR TIMER	CLEAR TIMER	DISK MAIN	SAME
COL	CLOCK OUTPUT LATCH	I/O	SAME
CONT SWP	CONTINUOUS SWEEP	206 CNTL	SAME
COUNT 13	COUNT 13	DISK MAIN	SAME
CRL	CURSOR LOCK	204A TRIG	204A CNTL
CRUCLK	9900 CRU CLOCK	DISK MAIN	SAME
CRUIN	9900 CRU IN	DISK MAIN ----- 2081 ----- 2082 -----	SAME I/O CPU I/O CPU
CRUOUT	9900 CRU OUT	DISK MAIN ----- I/O CPU ----- I/O CPU -----	SAME 2081 2082
CTLI	BECOMES I/O ACTIVE	HP CABLE	2085N
CTLO	CONTROL LINE Ø	HP CABLE	2085N
CO thru C3	2901 COMMAND CODE	M.F.	SAME
C1 thru C4	TIMING SIGNALS	206 CNTL	SAME
D R/W	DATA READ/WRITE	M.F. ----- I/O CPU ----- 2085N -----	M.F. MEM I/O I/O
D W/R	DATA WRITE/READ	DISK MAIN	I/O
DAB	DISK ACTIVE BUFFER	I/O	SAME
DACI	INTERNAL DATA ACCEPTED IN	2081	SAME
DACO	INTERNAL DATA ACCEPTED OUT	2081	SAME
DATA E	DATA ENABLE	201 CNTL	201 MOTHER
DAV	DATA AVAILABLE	EXT IEEE	2081
DAVI	INTERNAL DATA AVAILABLE IN	2081	SAME
DAVO	INTERNAL DATA AVAILABLE OUT	2081	SAME

MNEMONIC	NAME	ORIGINATES	DESTINATION
DBIN	9900 DATA BUSS IN	I/O CPU -----	2081, 2082
		DISK MAIN -----	SAME
DEC12	DECISION 1 & 2	201 CNTL -----	201 MOTHER
		201 CNTL -----	201 ADC
DEC34	DECISION 3 & 4	201 CNTL -----	201 MOTHER
		201 CNTL -----	201 ADC
DEC56	DECISION 5 & 6	201 CNTL -----	201 MOTHER
		201 CNTL -----	201 ADC
DEN	DATA ENABLE (SAME AS INT)	206 CNTL	SAME
DI 0 thru DI 11	DATA IN	2085N	I/O
DIRECTION	FLOPPY HEAD DIRECTION	DISK MAIN	FLOPPY
DISK ACTIVE	DISK ACTIVE	DISK MAIN -----	FLOPPY F.P.
		DISK MAIN -----	I/O CPU
		I/O -----	I/O CPU
DISK ACTIVE	DISK ACTIVE	DISK MAIN	I/O
DISK ERROR	DISK ERROR	DISK MAIN -----	I/O CPU
		DISK MAIN -----	I/O
DISK PROTECTED	DISK PROTECTED	DISK MAIN	FLOPPY F.P.
DISK/PL	DISK/PLUG-IN	I/O	SAME
DO 0 thru DO 11	DATA OUT	I/O	2085N
DOT	NUMERIC DISPLAY DOT	M.F.	SAME
DOWN	VERTICAL CURSOR DOWN	M.F.F.P.	M.F.
DRCS	DISK REQUEST CONTINUOUS SWEEP	DISK MAIN	I/O
DUMP RET	DUMP RETURN	206 CNTL	SAME
DUMP	DUMP	206 CNTL -----	SAME
		201 CNTL -----	SAME
DWELL	INTERNAL SAMPLE CLOCK	206 CNTL	SAME
EC	ENABLE CLEAR	I/O	SAME
EL	ENABLE LOAD	I/O	SAME
EN SHIFT COUNT	ENABLE SHIFT COUNT	DISK MAIN	SAME
EN WAIT	ENABLE WAIT	DISK MAIN	SAME
EOC	END OF CONVERSION	206 PL CNTL	SAME
EOI	END OR IDENTIFY	EXT IEEE	2081
EOII	INTERNAL END OR IDENTIFY IN	2081	SAME
EOIO	INTERNAL END OR IDENTIFY OUT	2081	SAME
EP	EXTERNAL PULSE	206 MOTHER -----	206 CNTL
		204A TRIG -----	SAME
EX	EXECUTE	M.F.F.P.	M.F.

MNEMONIC	NAME	ORIGINATES	DESTINATION
EX	EXECUTE	M.F.	M.F.F.P.
F.P. LED	FRONT PANEL LED (ON/OFF LED)	M.F.	M.F.F.P.
FAIL	FAIL	DISK MAIN	SAME
FAST	FAST	206 CNTL	206 MEM
FG0 thru FG2	FORCED MEMORY GROUP	206 CNTL	SAME
FNO thru FN2	FUNCTION SWITCH	M.F.F.P.	M.F.
FORCE XA	FORCE PLUG-IN ADDRESS COUNTER	201 CNTL	SAME
GO thru G2	MEMORY GROUP SWITCH	M.F.F.P. ----- M.F.F.P. ----- M.F.F.P. ----- M.F.F.P. ----- M.F.F.P. ----- M.F.F.P. -----	M.F. 201 CNTL 204A CNTL 206 CNTL I/O DISK MAIN
GO/T0	MEMORY GROUP OR TRACK SELECT	I/O ----- I/O -----	I/O CPU I/O DRIVER
G1/T1	MEMORY GROUP OR TRACK SELECT	I/O ----- I/O -----	I/O CPU I/O DRIVER
G2/T2	MEMORY GROUP OR TRACK SELECT MEMORY GROUP OR TRACK SELECT	I/O ----- I/O -----	I/O CPU I/O DRIVER
H D/A	HORIZONTAL DAC OUTPUT	M.F.	BLANKING
H LAST	HOLD LAST	REMOTE CONN	M.F.
HOLD LAST	SAME AS H LAST	206 STR CNTL ---- 201 STR CNTL ---- 204A STR CNTL --- I/O ----- I/O ----- 2081/2082 -----	206 CNTL 201 CNTL 204A CNTL DISK MAIN PL CONNECTOR I/O CPU
H NEXT	HOLD NEXT	REMOTE CONN	M.F.
HOLD NEXT	SAME AS H NEXT	206 STR CNTL ---- 201 STR CNTL ---- 204A STR CNTL --- I/O ----- I/O ----- 2081/2082 -----	206 CNTL 201 CNTL 204A CNTL DISK MAIN PL CONNECTOR I/O CPU
H.K.	HORIZONTAL CURSOR	M.F.	206 CNTL
HALT	HALT	DISK MAIN	SAME
HEAD LOAD	FLOPPY HEAD LOAD	DISK MAIN	FLOPPY
HEX0 thru HEX2	HORIZONTAL EXPANSION SWITCH	M.F.F.P.	M.F.
HKO thr HK11	HORIZ CURSOR BITS 1 THRU 11	206 CNTL	SAME
HNO thru HN9	HORIZONTAL NORMALIZATION	201 CNTL	SAME
HOLD	HOLD	201 CNTL	201 ADC

MNEMONIC	NAME	ORIGINATES	DESTINATION
HOLD	HOLD	I/O	SAME
I TRIG	INTERNAL TRIGGER	201 ADC	201 MOTHER
I/O ACTIVE	I/O ACTIVE	I/O	DISK MAIN
I/O ACTIVE B	I/O ACTIVE BUFFERED	DISK MAIN	FLOPPY F.P.
I/O ACTIVE	I/O ACTIVE	2085N ----- 2081/2082 ----- I/O CPU -----	I/O I/O CPU I/O
I/O FLAG	I/O FLAG	I/O ----- I/O -----	DIK MAIN I/O CPU
I/O FLAG	I/O FLAG	I/O DRIVER	2085N
I/O LITE	EXECUTE LED	M.F.	M.F.F.P.
I/O RCS	I/O REQUEST CONTINUOUS SWEEP	I/O DRIVER ----- I/O CPU -----	I/O I/O
I/O STEP	I/O STEP	DISK MAIN	I/O
I/O STEP	I/O STEP	I/O CPU ----- I/O DRIVER -----	I/O I/O
I/O	BECOMES D R/W or N R/W	2085N	I/O
IAO thru IA8	PROGRAM PROM ADDRESS	M.F.	SAME
IFC	INTERFACE CLEAR	IEEE CONN	2081
INDEX P	INDEX PULSE	DISK MAIN	SAME
INDEX	FLOPPY GENERATED INDEX PULSE	FLOPPY	DISK MAIN
INT	SAME AS PL INT	I/O ----- 206 CNTL ----- 201 CNTL ----- 204A CNTL -----	PL CONNECTOR SAME SAME SAME
INTR DISK	INTERRUPT DISK	I/O CPU	SAME
INTR LIVE	INTERRUPT LIVE	I/O CPU	SAME
INT1 thru INT4	INTERRUPT 1-4	2081.2082	I/O CPU
IO thru I8	2901 INSTRUCTION	M.F.	SAME
JUMP	JUMP	M.F.	SAME
JO thru J3	M.F. JUMP CODES	M.F.	SAME
K2 thru K11	M.F. CONSTANTS	M.F.	SAME
LAJ	LOAD ADDRESS JUMP	I/O	SAME
LED1 thru LED8	FLOPPY TRACK LEDS	DISK MAIN	FLOPPY F.P.
LEFT	HORIZONTAL CURSOR LEFT	M.F.F.P.	MAIN FRAME
LISTEN	LISTEN	2081	SAME
LIVE B	BUFFERED LIVE	I/O ----- I/O ----- I/O DRIVER -----	DISK MAIN I/O DRIVER 2085N

MNEMONIC	NAME	ORIGINATES	DESTINATION
LIVE B	BUFFERED LIVE	I/O DRIVER	2085N
LIVE	LIVE MODE	PL CONNECTOR ---- I/O 206 CNTL ----- 206 MOTHER 201 CNTL ----- 201 MOTHER 204A TRIG ----- SAME	
LOAD	LOAD	206 CNTL ----- 206 ADC I/O ----- SAME	
LOAD/SHIFT	LOAD/SHIFT	DISK MAIN	SAME
LOOP	LOOP	206 CNTL	SAME
MCK	MEMORY CLOCK	204A CNTL	204A MEM
MDP	MEMORY DISK PROTECTED	FLOPPY	DISK MAIN
MEMEN	MEMORY ENABLE	DISK MAIN ----- I/O CPU -----	SAME SAME
MEX	MEMORY EXECUTE	204A CNTL	204A MEM
MF → PL	MAIN FRAME TO PLUG-IN	I/O ----- 206 CNTL -----	M.F. MEM M.F. MEM
MF CLOK	MAIN FRAME CLOCK	M.F. MEM	M.F.
MF INT	MAIN FRAME INTERRUPT	M.F.	M.F. MEM
MF R/W	MAIN FRAME READ/WRITE	M.F.	M.F. MEM
MFBC	MAIN FRAME BUSS CONTROL	M.F.	M.F. MEM
MFBCN	M.F. BUSS CONTL NORMALIZATION	M.F.	M.F. MEM
MFN R/W	M.F. NORMALIZATION READ/WRITE	M.F.	M.F. MEM
MGO & MG1	MEMORY GROUP BITS 0 & 1	201 CNTL ----- 206 CNTL -----	SAME SAME
MID SW	MID CURSOR TRIGGER SWITCH	201 MOTHER	201 CNTL
MID	MID SIGNAL TRIGGER	206 MOTHER ----- 201 MOTHER ----- 204A TRIG -----	206 CNTL 201 CNTL SAME
MOTOR ON	FLOPPY MOTOR ON	DISK MAIN	FLOPPY
MRX	MEMORY REGISTER	DISK MAIN	SAME
MRO	MEMORY REGISTER 0	DISK MAIN	SAME
MRO B	BUFFERED MEM REGISTER 0	DISK MAIN	SAME
MR1 thru MR4	MEMORY REGISTER 1, 2, 3, 4	I/O CPU	2081
MR1	MEMORY REGISTER 1	DISK MAIN	SAME
MSWP	MEMORY SWEEP	206 CNTL	SAME
N SEL	NORMALIZATION SELECT	206 MEM	206 MOTHER
N W/R	NORMALIZATION	DISK MAIN	I/O
NA2, NA3, NA6, NA8	CHANNEL "A" NORMALIZATION BITS	201 ADC	201 MOTHER

MNEMONIC	NAME	ORIGINATES	DESTINATION
NB2, NB3, NB6, NB8	CHANNEL "B" NORMALIZATION BITS	201 ADC	201 MOTHER
NEXT	NEXT	201 CNTL	SAME
NI	NORMALIZATION IN	I/O DRIVER	I/O
NO	NORMALIZATION OUT	I/O	I/O CPU
NO-OP	NO OPERATION	M.F.	SAME
NRFD	NOT READY FOR DATA	IEEE CONN	2081
N2, N3, N6, N8	NORMALIZATION BITS	206 ADC ----- 201 MOTHER -----	SAME 201 CNTL
ON LINE	RS232 ON LINE	2082	SAME
OVR	2901 OVERFLOW	M.F.	SAME
PCE	PLUG-IN CONTROL ENABLE	I/O	SAME
PCTL	BECOMES I/O STEP	HP CABLE	2085N
PEN H	HORIZONTAL PEN OUTPUT	M.F.	REAR PANEL BNC
PEN V	VERTICAL PEN OUTPUT	M.F.	REAR PANEL BNC
PFLG	BECOMES I/O FLAG	HP CABLE	2085N
PL BUSY	PLUG-IN BUSY	206 CNTL	I/O
PL INT	PLUG-IN INTERRUPT (See INT)	PL CNTL	M.F. MEM
PL NORM	PLUG-IN NORMALIZATION	PL CNTL	M.F. MEM
PL NR/W	PL NORMALIZATION READ/WRITE	I/O ----- M.F. ----- DISK MAIN ----- PL CNTL ----- I/O CPU ----- 2085N -----	M.F. MEM M.F. MEM I/O M.F. I/O I/O
PL R/W	PLUG-IN READ/WRITE	PL CNTL	M.F. MEM
PL/DISK	PLUG-IN/DISK	I.O. DRIVER ----- I/O CPU ----- 2085N -----	I/O I/O I/O
PLBC	PLUG-IN BUSS CONTROL	201 CNTL	M.F. MEM
PLJ2 & PLJ3	PLUG-IN JUMP 2 & 3	M.F.	NOT USED
PLP	PARALLEL LOAD PULSE	DISK MAIN	SAME
PP	TIMING SIGNAL (4MHZ)	206 CNTL	SAME
PRESET	RESET	HP CABLE	SAME
PSTS	BECOMES DISK ACTIVE	HP CABLE	2085N
P1 thru P8	TRACK LEDS	FLOPPY F.P.	DISK MAIN
P1, P2, P3, P4	TIMING SIGNALS	206 CNTL ----- 201 CNTL -----	206 ADC SAME
P7	TIMING SIGNAL	206 CNTL	206 ADC

MNEMONIC	NAME	ORIGINATES	DESTINATION
QSWP1	QUICK SWEEP 1	206 CNTL	SAME
R/W	READ/WRITE	206 MEM	SAME
RAM CE	RAM CHIP ENABLE	DISK MAIN ----- I/O CPU -----	SAME SAME
RCFF	RESET CLEAR FLIP FLOP	I/O	SAME
RCL	FLOPPY RECALL	FLOPPY F.P. ----- I/O -----	DISK MAIN DISK MAIN
RCS	REQUEST CONTINUOUS SWEEP	I/O	SAME
RCS	REQUEST CONTINUOUS SWEEP	I/O ----- I/O -----	206 CNTL 201 CNTL
RE	READ ENABLE	DISK MAIN	SAME
READ DATA	READ FLOPPY DATA	FLOPPY	DISK MAIN
READ EN	READ ENABLE	DISK MAIN	SAME
READY	READY	DISK MAIN	SAME
RELSW	RELEASE SWITCH (LIVE MODE)	REMOTE CONN ----- DISK MAIN ----- STR CNTL ----- 204A TRIG ----- 206 STR CNTL ---- 2085N ----- I/O CPU -----	M.F. I/O PL CNTL SAME 206 MOTHER I/O DRIVER I/O
REN	REMOTE ENABLE	IEEE CONN	2081
RENI	INTERNAL REMOTE ENABLE IN	2081	SAME
RESET	RESET	DISK MAIN ----- I/O CPU -----	SAME SAME
RFDI	INTERNAL READY FOR DATA IN	2081	SAME
RFDO	INTERNAL READY FOR DATA OUT	2081	SAME
RI/OF	RESET I/O FLAG	I/O	SAME
RIGHT	HORIZONTAL CURSOR RIGHT	M.F.F.P.	M.F.
ROMI CS	CHIP SELECT ROM I	I/O CPU	SAME
RRO thru RR3	RETAIN REFERENCE SWITCH	204A STR CNTL	SAME
RSP	READ SHIFT PULSE	DISK MAIN	SAME
RTI	RESET TIMER INTERRUPT	DISK MAIN	SAME
RW	READ WRITE	201 CNTL	SAME
RXA	RESET PL ADDRESS COUNTER	206 CNTL ----- 201 CNTL -----	SAME SAME
SA R/W	SCRATCH PAD MEMORY READ/WRITE	206 CNTL	SAME
SAO thru SA9	SCRATCH PAD MEMORY ADDRESS	206 MEM ----- 201 CNTL -----	SAME SAME

MNEMONIC	NAME	ORIGINATES	DESTINATION
SA00	SCRATCHPAD ADDRESS 00	206 CNTL	206 MEM
SDCLK	SERIAL DATA CLOCK	DISK MAIN	SAME
SDI	SERIAL DATA IN	DISK MAIN	SAME
SDMP	SET DUMP	206 CNTL	SAME
SDO	SERIAL DATA OUT	DISK MAIN	SAME
SEL PL	SELECT PLUG-IN	201 CNTL	201 MOTHER
SEL SCRATCH	SELECT SCRATCHPAD MEMORY	201 CNTL	SAME
SEP CLK	SEPARATE CLOCK PULSES	DISK MAIN	SAME
SEP DATA	SEPARATE DATA PULSES	DISK MAIN	SAME
SET SYNCH	SET SYNCH	206 CNTL	SAME
SJ1 & SJ2	SET JUMP 1 & 2	206 CNTL	SAME
SK SWP	SKIP SWEEP	STR CNTL	PL CNTL
SKIP	SKIP	206 CNTL	SAME
SRQ	SERVICE REQUEST	IEEE CONN	2081
SRQO	SERVICE REQUEST OUT	2081	SAME
SRXA	SET RXA	206 CNTL	SAME
STEP	FLOPPY STEP	DISK MAIN	FLOPPY
STIO	BECOMES LIVE	2081	SAME
STO	FLOPPY STORE	I/O	DISK MAIN
STOP+	STOP +	201 CNTL	201 MOTHER
SWP	SWEEP	206 CNTL ----- 201 CNTL ----- 204A -----	206 MOTHER 201 MOTHER SAME
SWP	SWEEP	206 CNTL ----- 201 CNTL -----	206 MOTHER 201 MOTHER
SWPEND	SWEEP END	201 CNTL	SAME
SWP1	SWEEP 1	206 CNTL	SAME
SWP2	SWEEP 2	206 CNTL ----- 204A CNTL -----	206 MEM 204A MEM
SO thru S4	MEMORY SELECT	FLOPPY F.P.	DISK MAIN
TALK	TALK	2081	SAME
THD	TRANSFER HORIZONTAL DISPLAY	M.F.	SAME
TIM-I	TIMER INTERRUPT	DISK MAIN	SAME
TIMER	TIMER	DISK MAIN	SAME
TOG DUMP	TOGGLE DUMP	201 CNTL	SAME
TRIG L	TRIGGER PULSE	204A TRIG	SAME
TRIG P	TRIGGER LED	201 MOTHER	SAME

DESTINATION	ORIGINATES	NAME	MNEMONIC
TRIG	TRIGGERED	206 MOTHER	206 CNTL
TRIG	TRIGGERED	201 CNTL	201 MOTHER
TRK 00	TRACK ZERO	FLOPPY	DISK MAIN
TRKF	TRACK FORWARD	I/O	DISK MAIN
TSB	TRACK SELECT BACKWARD	FLOPPY F.P.	DISK MAIN
TSF	TRACK SELECT FORWARD	I/O -----	DISK MAIN
		FLOPPY F.P. -----	DISK MAIN
TVD	TRANSFER VERTICAL DISPLAY	M.F.	SAME
TO thru T2	TRACK NUMBER BITS	DISK MAIN -----	I/O
		DISK MAIN -----	I/O CPU
UP+	UP PLUS	206 CNTL	SAME
UP-	UP MINUS	M.F.F.P.	M.F.
V D/A	VERTICAL DAC OUTPUT	M.F.	BLANKING
VEX0 thru VEX2	VERTICAL EXPANSION SWITCH	M.F.F.P.	M.F.
VNO thru VN9	VERTICAL NORMALIZATION	PL CNTL	SAME
W	WRITE	201 CNTL	SAME
W/R D	WRITE/READ DATA	DISK MAIN	I/O
W/R N	WRITE/READ NORMALIZATION	DISK MAIN	I/O
WE	WRITE ENABLE	DISK MAIN -----	I/O
		I/O CPU -----	2081/2082
WG	WRITE GATE	DISK MAIN	SAME
WRITE DATA	WRITE DATA TO FLOPPY	DISK MAIN	FLOPPY
WRITE GATE	WRITE GATE	DISK MAIN	FLOPPY
WSP	WRITE SHIFT PULSE	DISK MAIN	SAME
X TO B	DATA TO PL BUSS	I/O	SAME
XA EN	PL ADDRESS COUNTER ENABLE	206 CNTL	SAME
XA TO B	ADDRESS TO PL BUSS	I/O	SAME
XAEN	PL ADDRESS COUNTER ENABLE	201 CNTL	SAME
XAO thr SA11	PLUS IN ADDRESS	206 CNTL	SAME
		201 CNTL	SAME
XCHE	PLUG-IN CURSOR HORIZONTAL END	206 CNTL	SAME
XCHE INHB	PLUG-IN CURSOR HOR END INHIBIT	206 CNTL	SAME
YT	XY OR YT MODE SWITCH	M.F.F.P.	M.F.
01 thru 04	9900 CLOCK PHASES	DISK MAIN -----	SAME
		I/O CPU -----	2081/2082
2 CH	TWO CHANNELS	206 CNTL -----	SAME
		201 CNTL -----	I/O
4MHz	CLOCK FREQUENCY (Same as CLOK 1)	PL CNTL -----	I/O







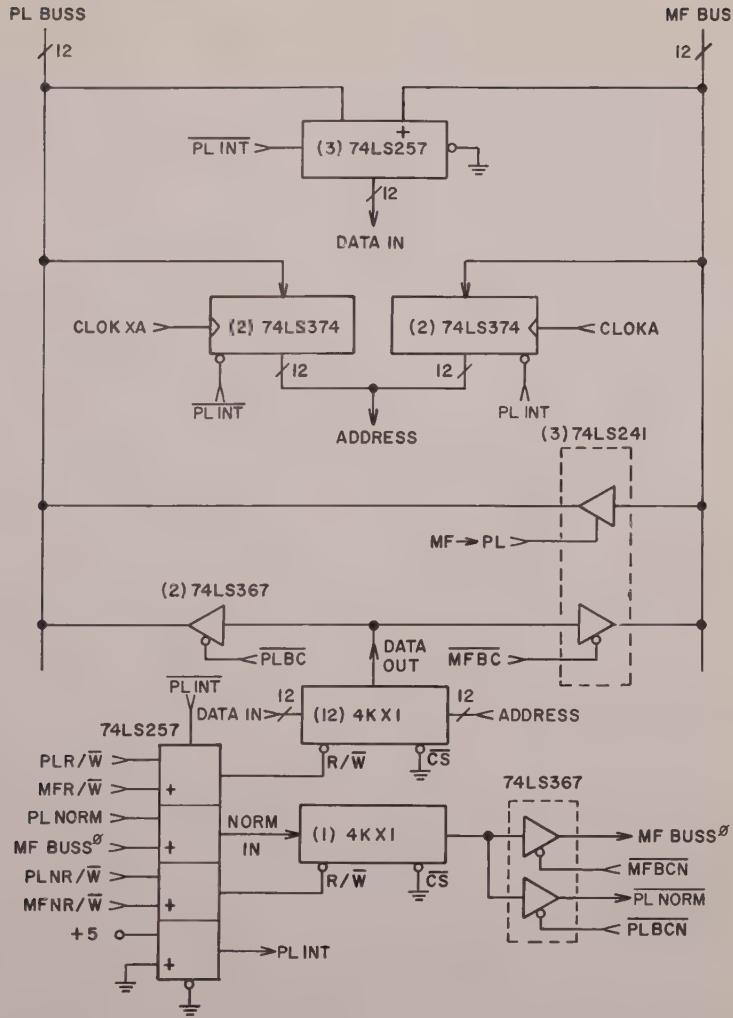
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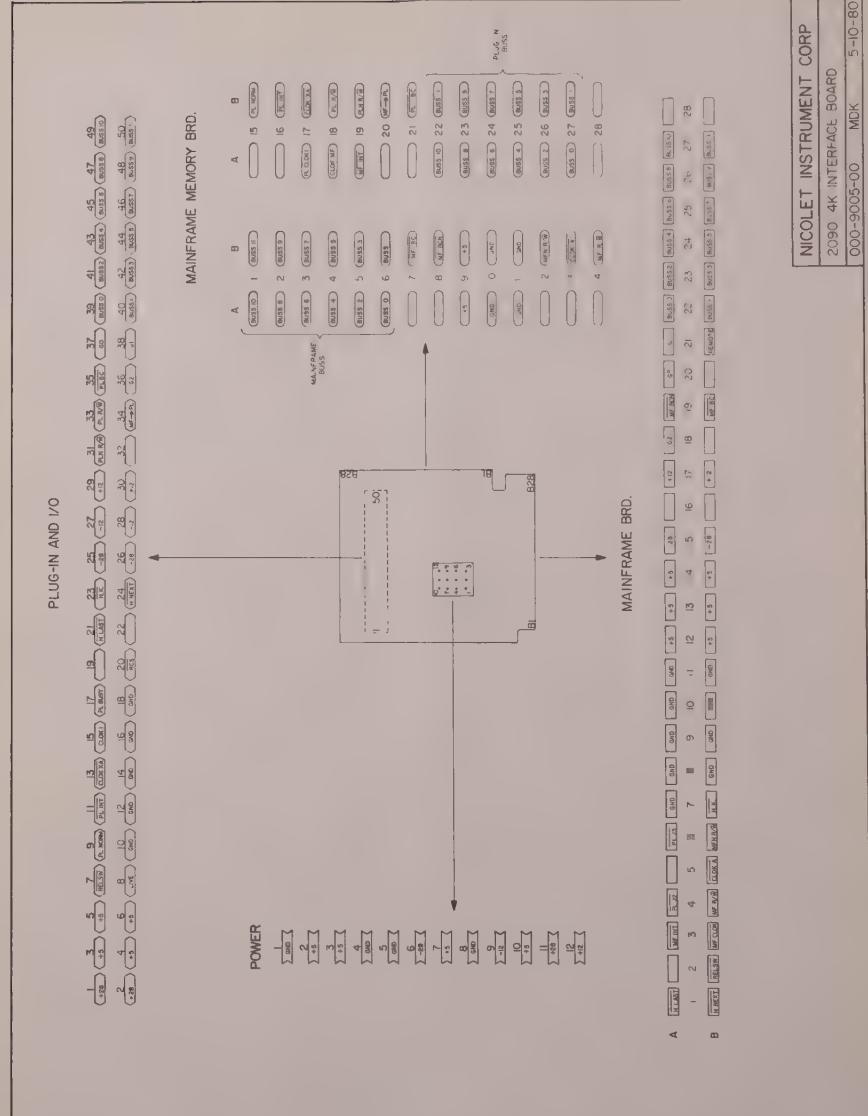
(\*) P = Component placement diagrams; S = Schematics.

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(\*) P = Component placement diagrams; S = Schematics.



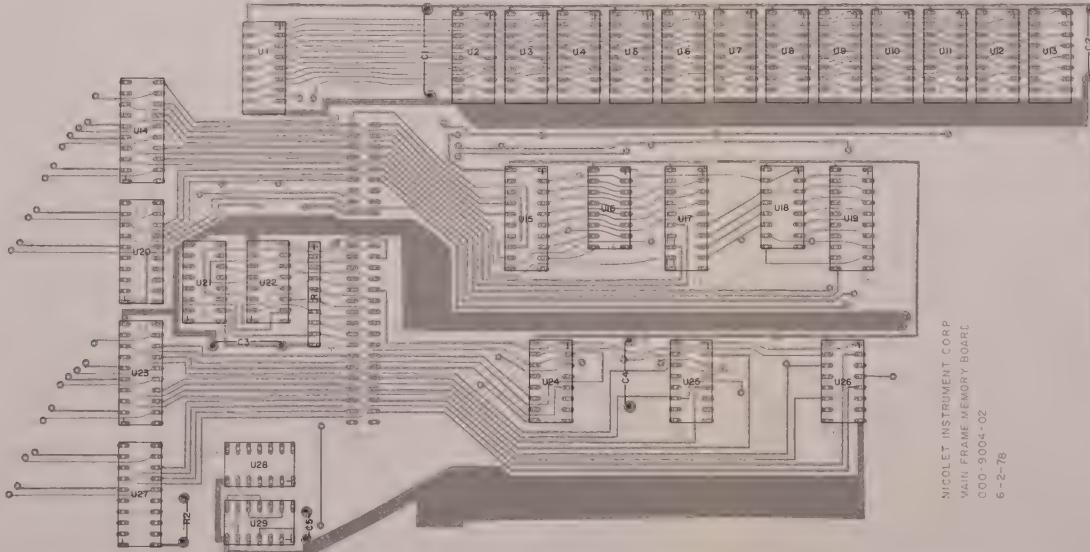
4K RAM MAIN FRAME



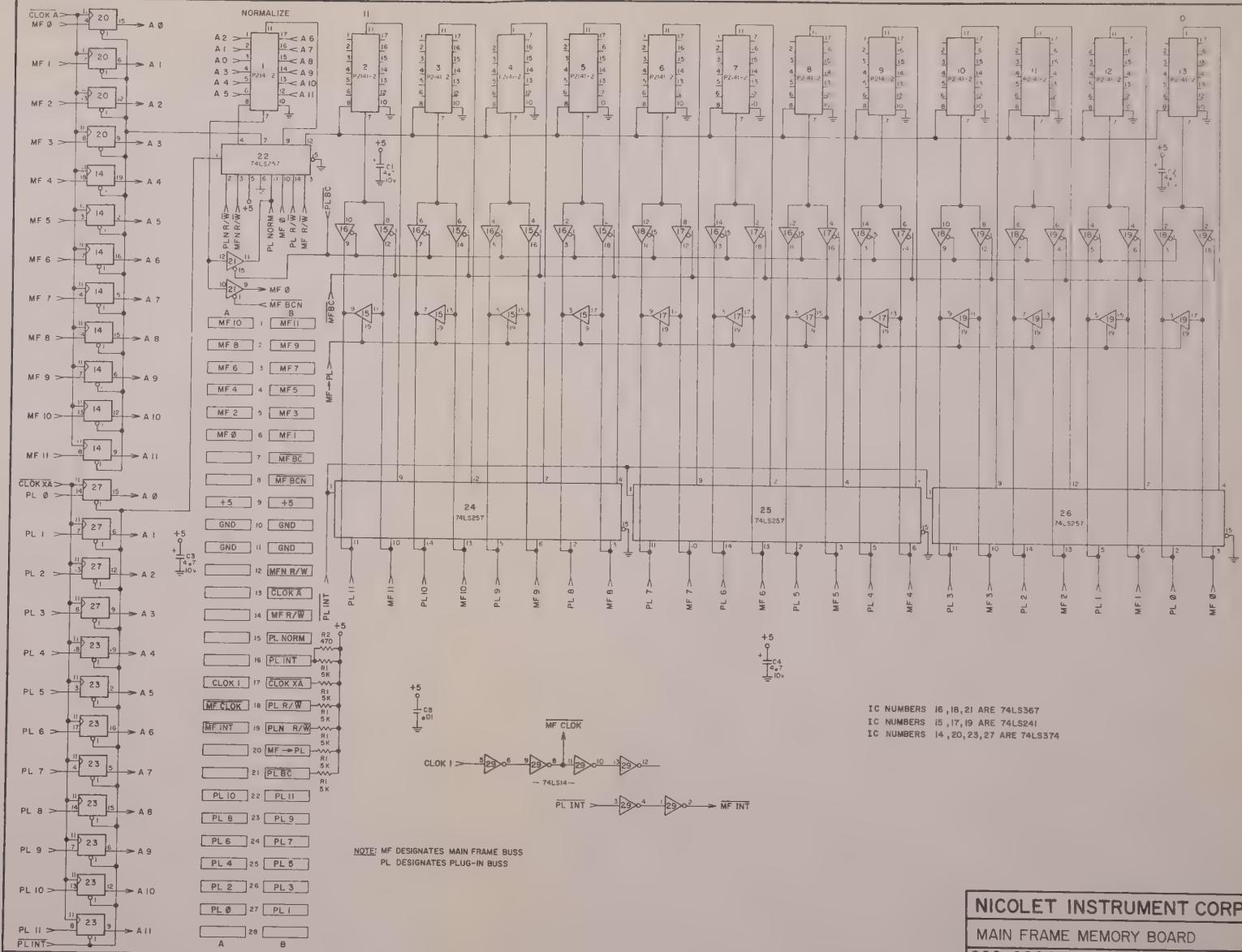
NICOLET INSTRUMENT CORP

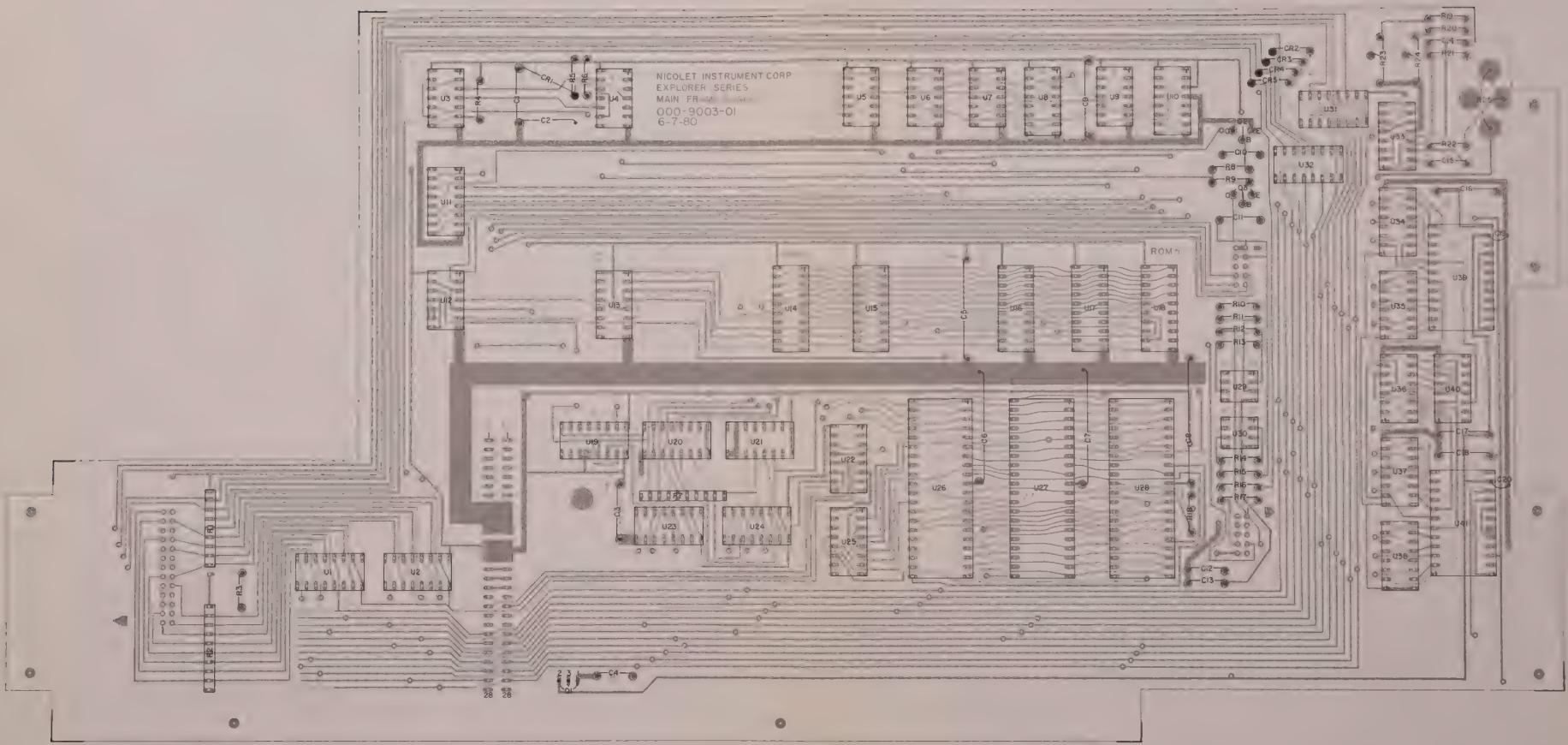
2090 4K INTERFACE BOARD

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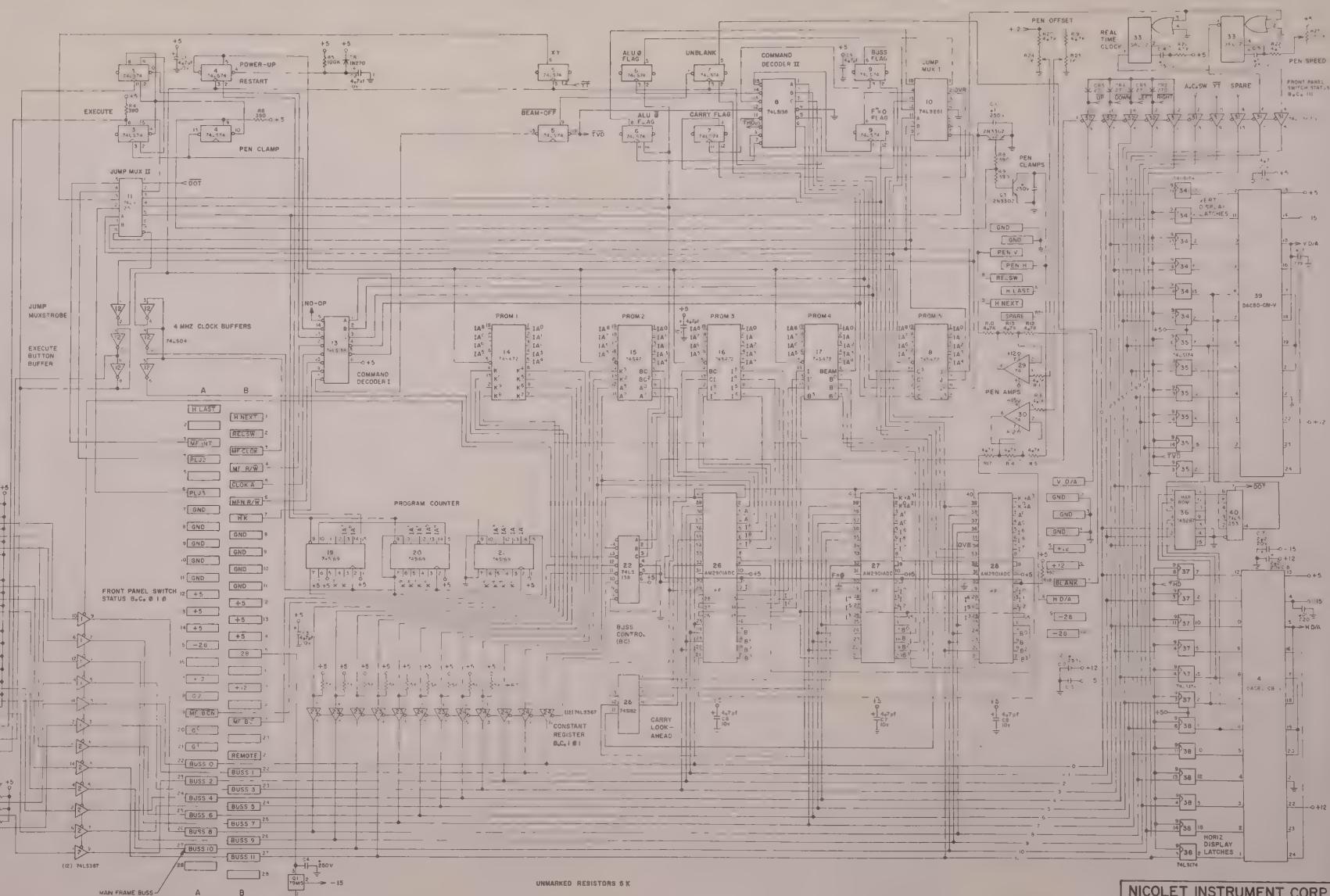


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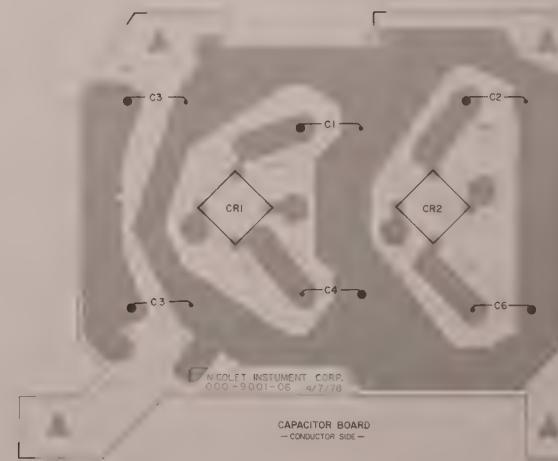
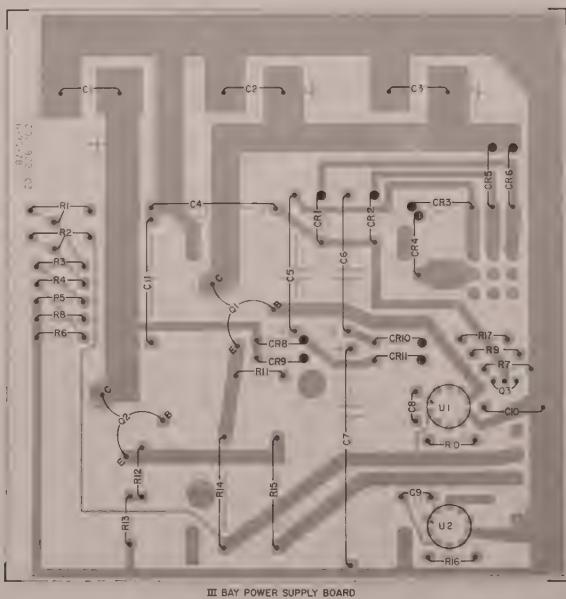
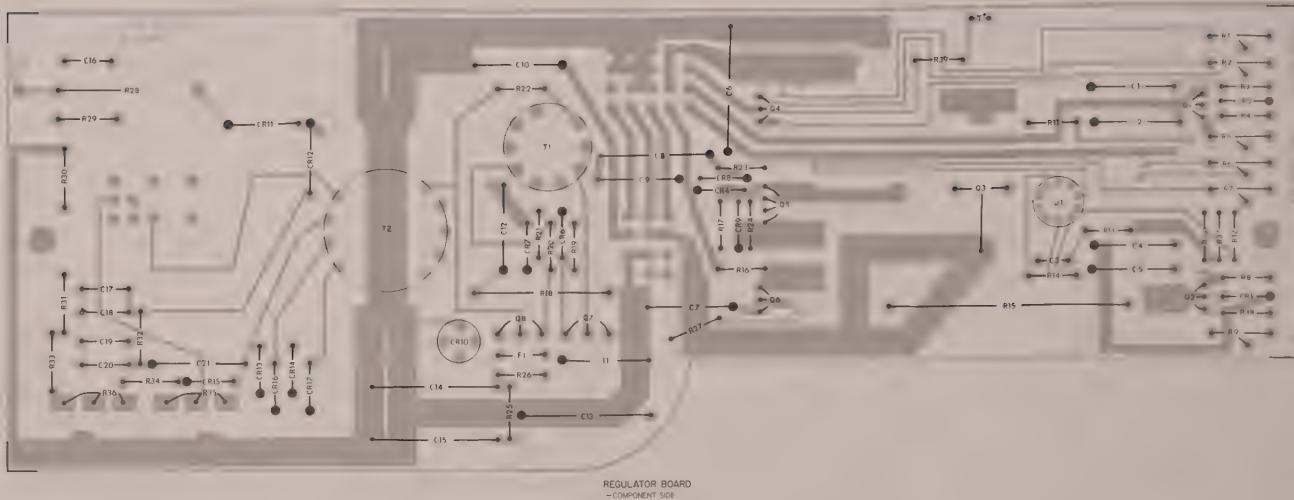
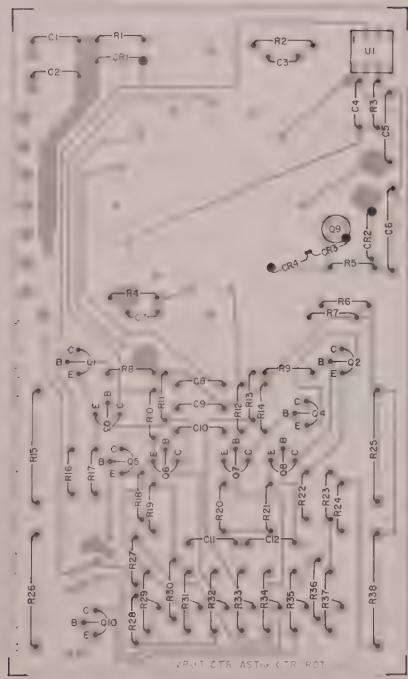


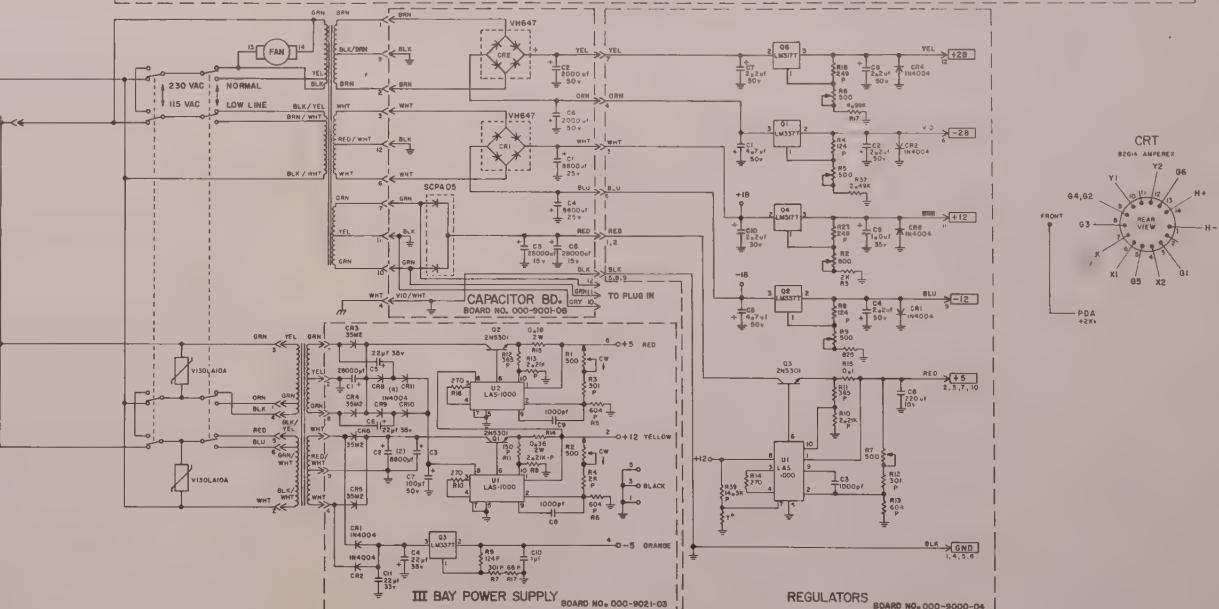
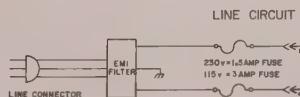
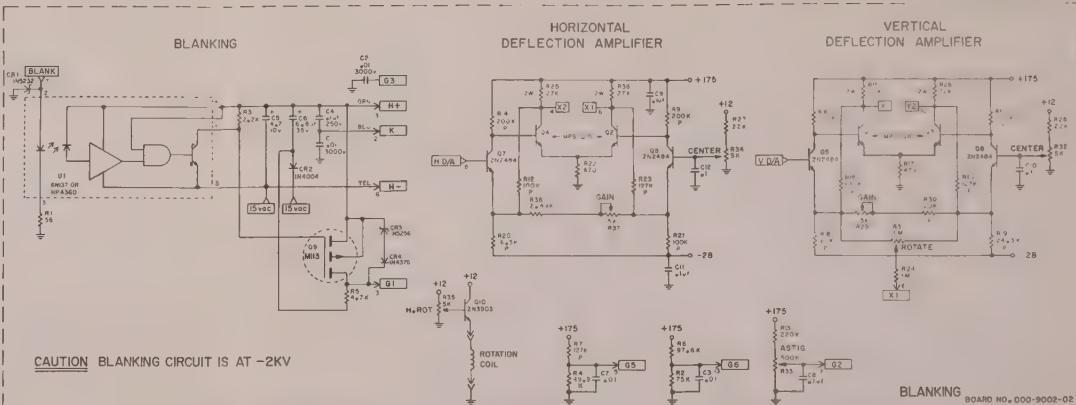
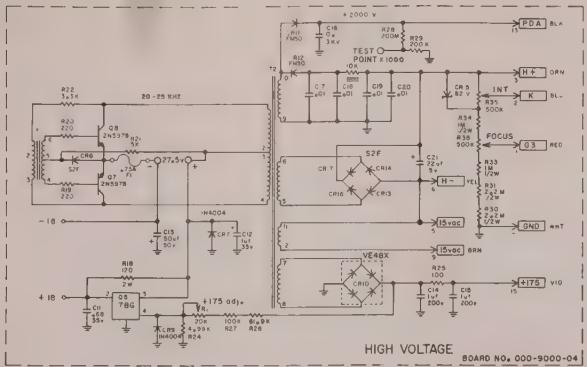
NICOLET INSTRUMENT CORP

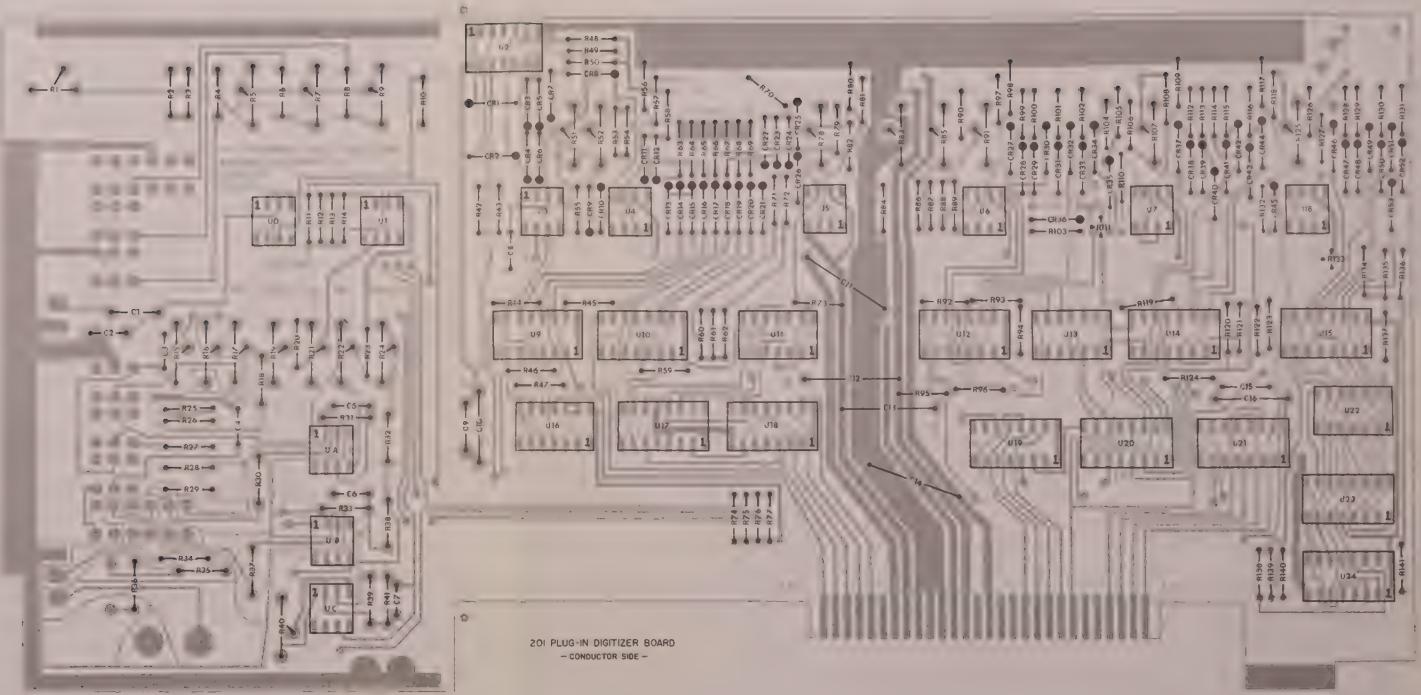
MAIN FRAME BOARD

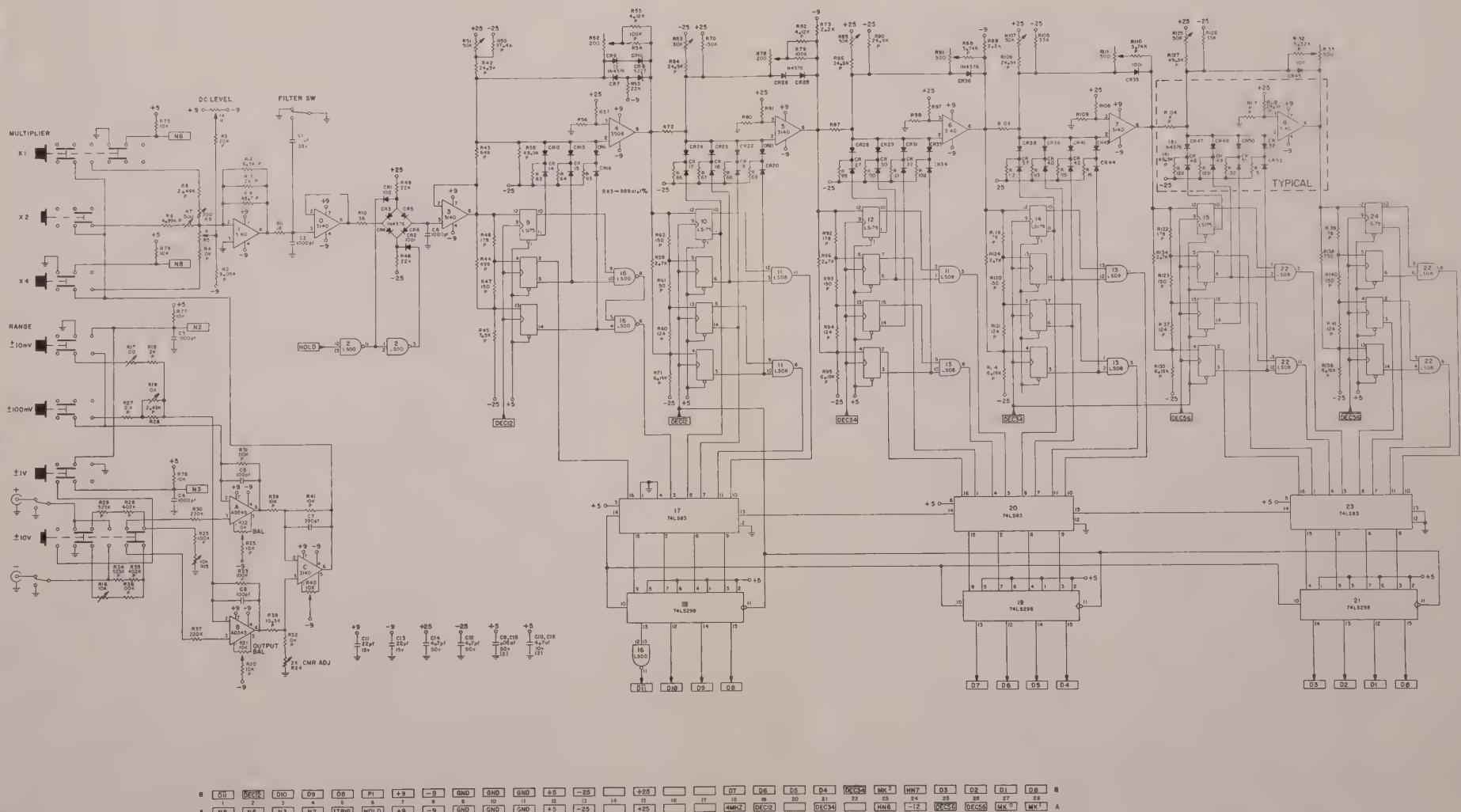
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LEK 10-6-80





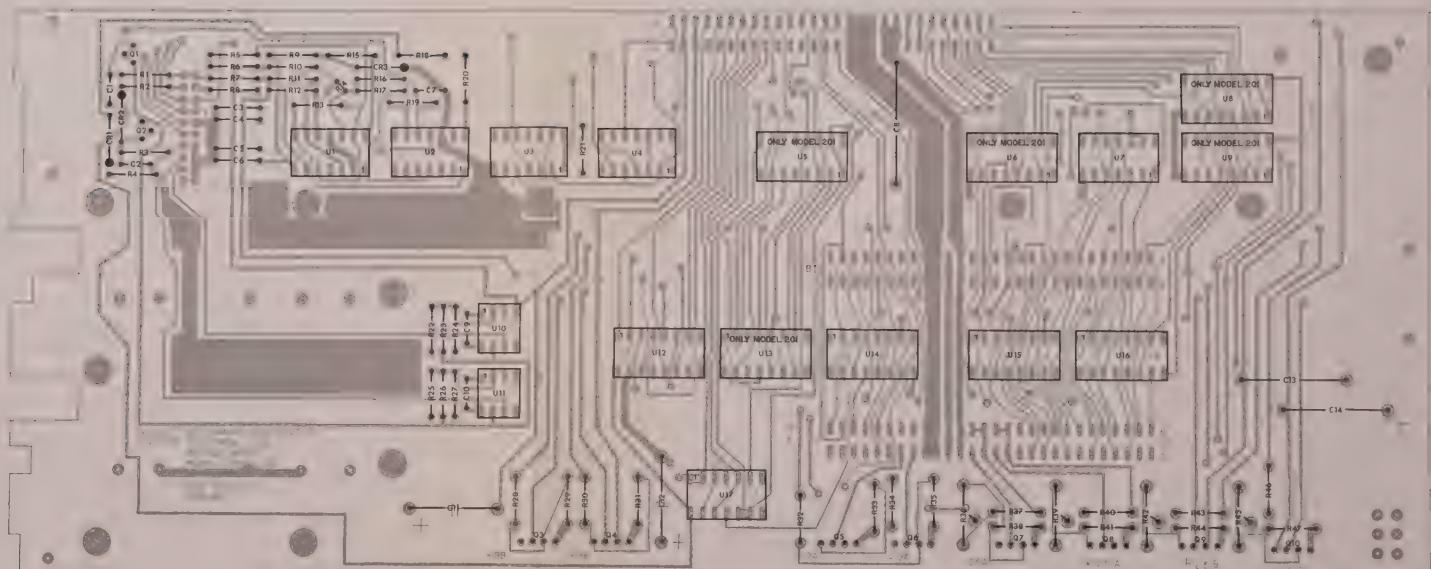




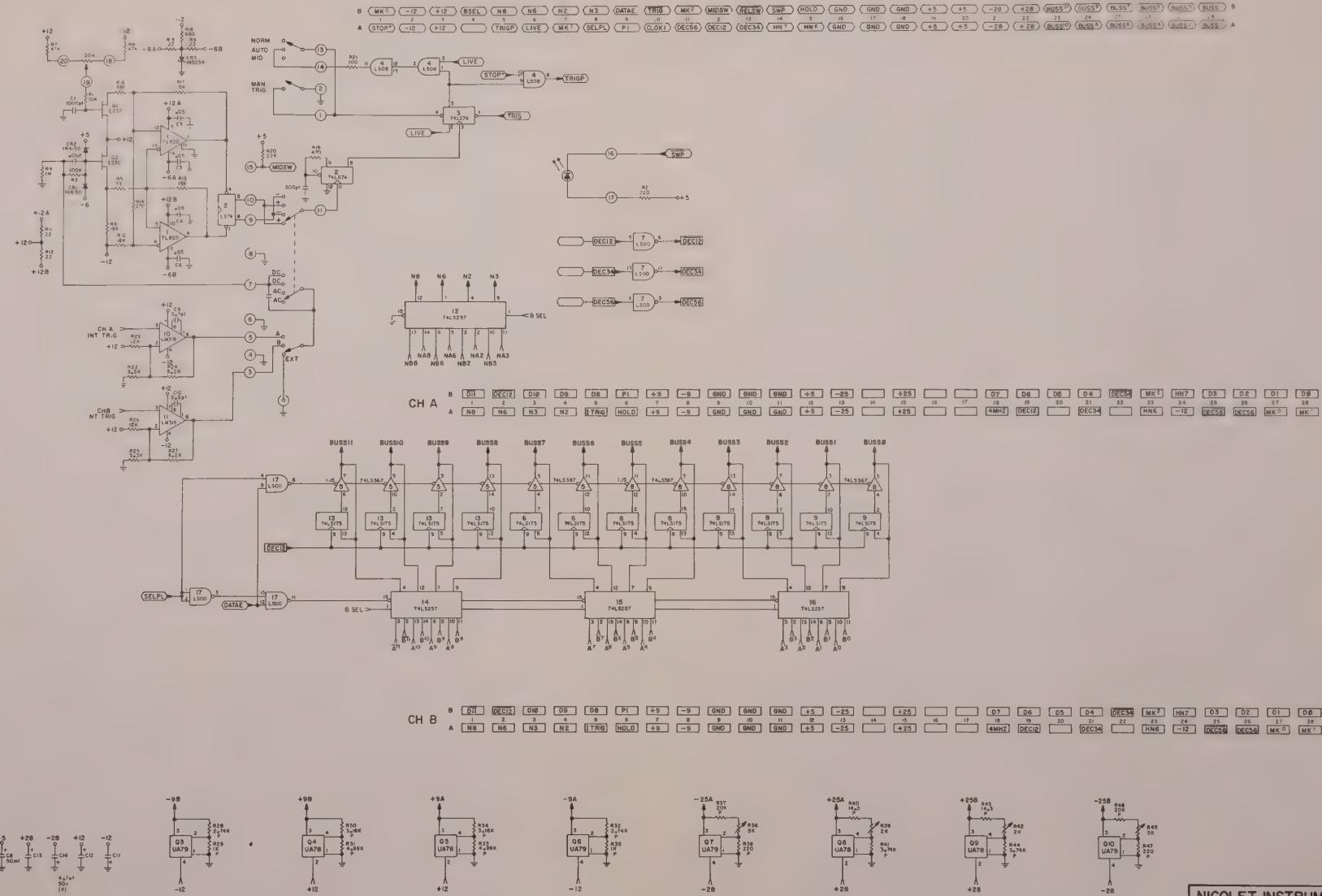
NICOLET INSTRUMENT CORP.

201 PLUG-IN DIGITIZER BOARD

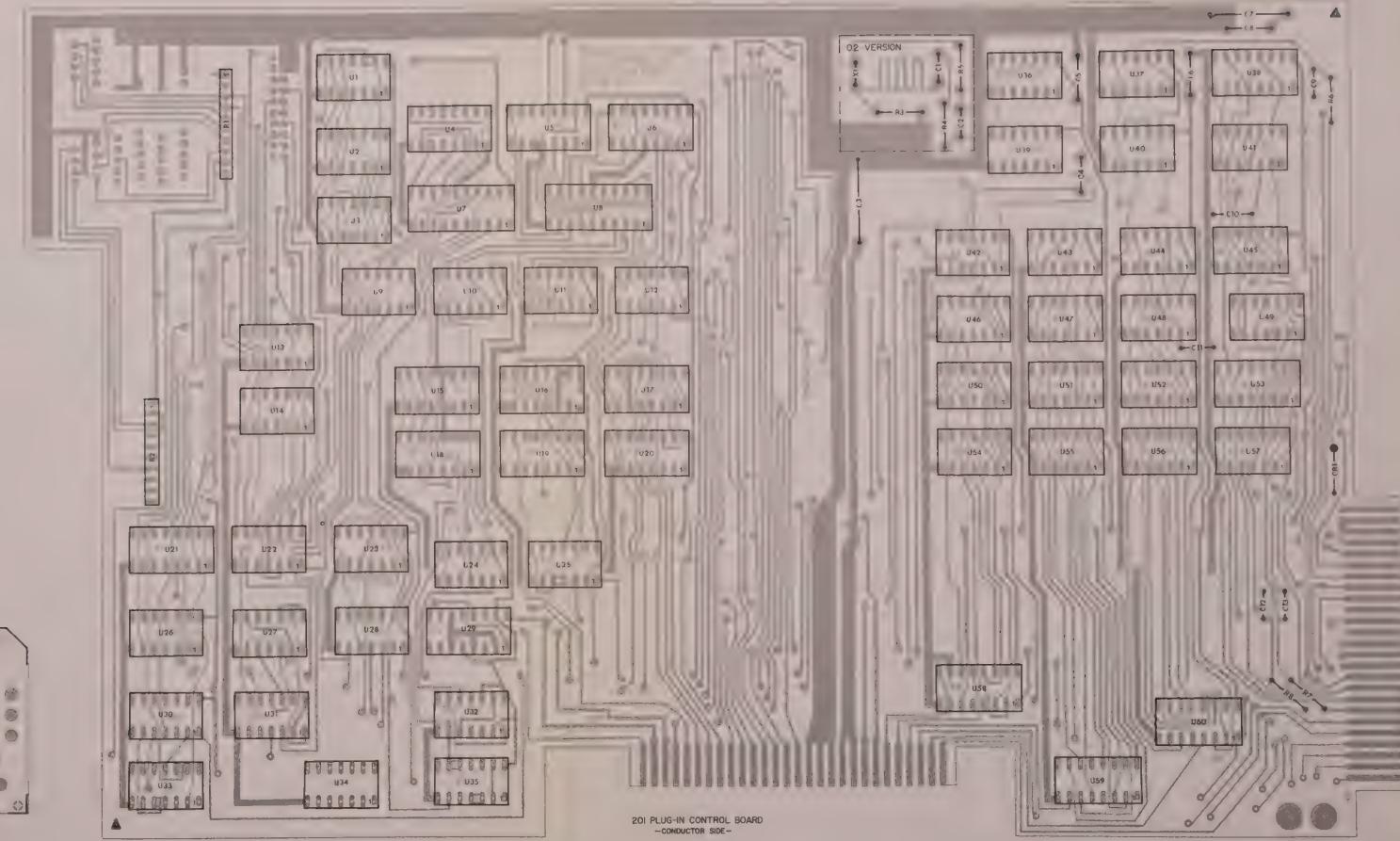
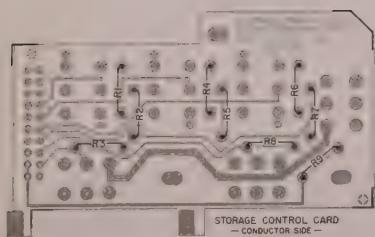
000-9040-06 LBK 12-10-80



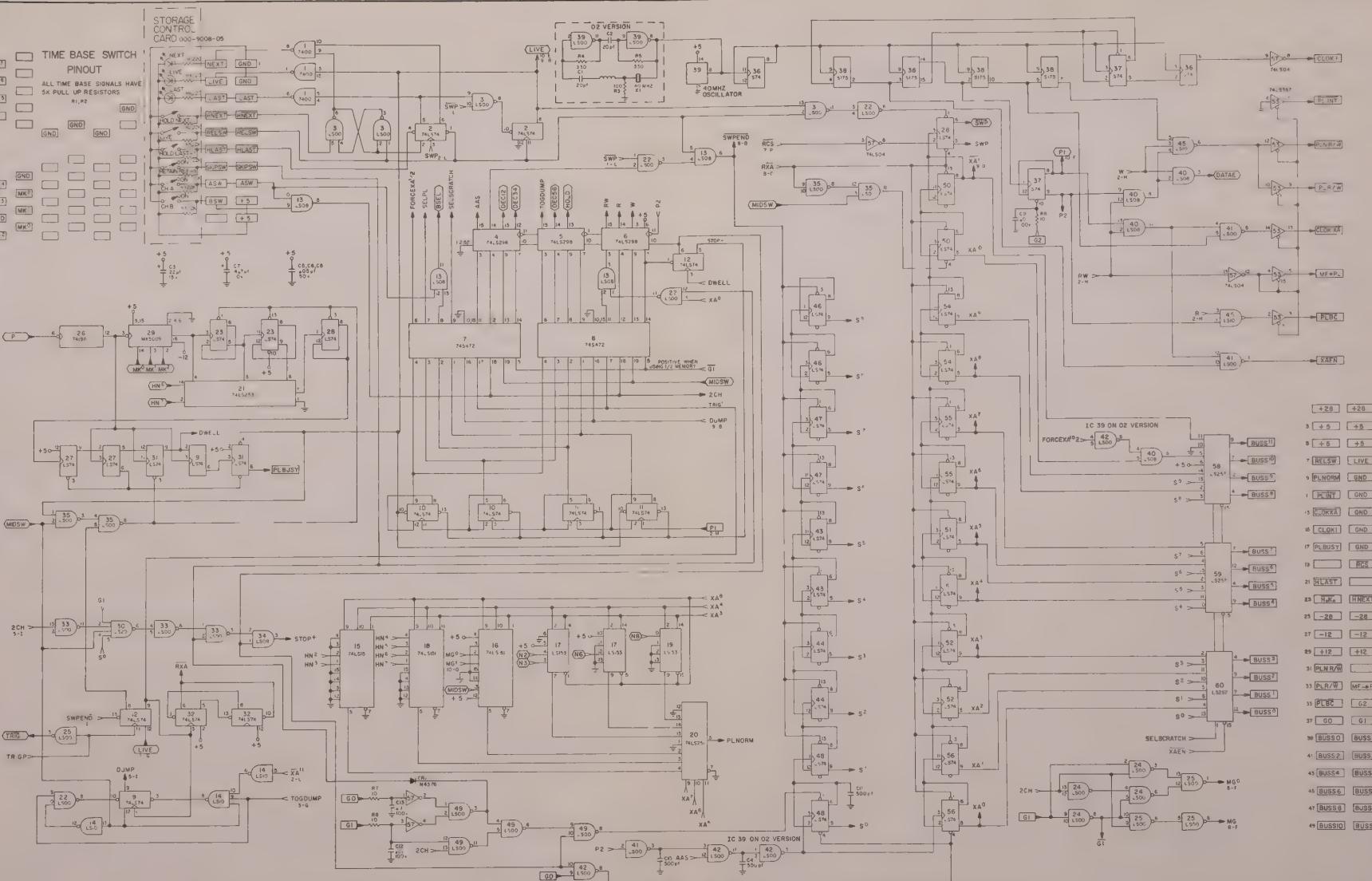
200+201 PLUG-IN MOTHER BOARD  
—CONDUCTOR SIDE—



NICOLET INSTRUMENT CORP.  
201 PLUG-IN MOTHER BOARD  
000-9039-04 LBK 09-22-00



201 PLUG-IN CONTROL BOARD  
—CONDUCTOR SIDE—

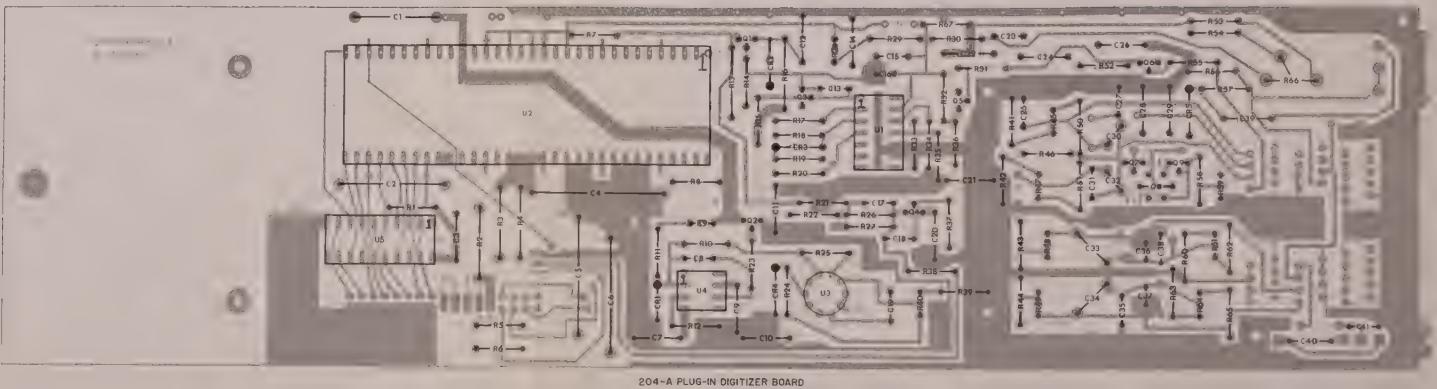


A	STOP <sup>+</sup>	-12	+12	TRIGP	LIVE	MK*	SELPL	PI	CLOK1	DEC50	DEC12	HN1	HN2	GND	GND	+5	+5	-28	+28	BUS50	BUS52	BUS53	BUS54	BUS55	BUS56	A			
B	MK*	-12	+12	BSEL	NB	N2	N3	DATAE	TRIG	MK*	MDSW	RELAY	SWP	HOLD	DND	DND	GND	GND	+5	+5	-28	+28	BUS51	BUS52	BUS53	BUS54	BUS55	BUS56	B

NOICOET INSTRUMENT CORP

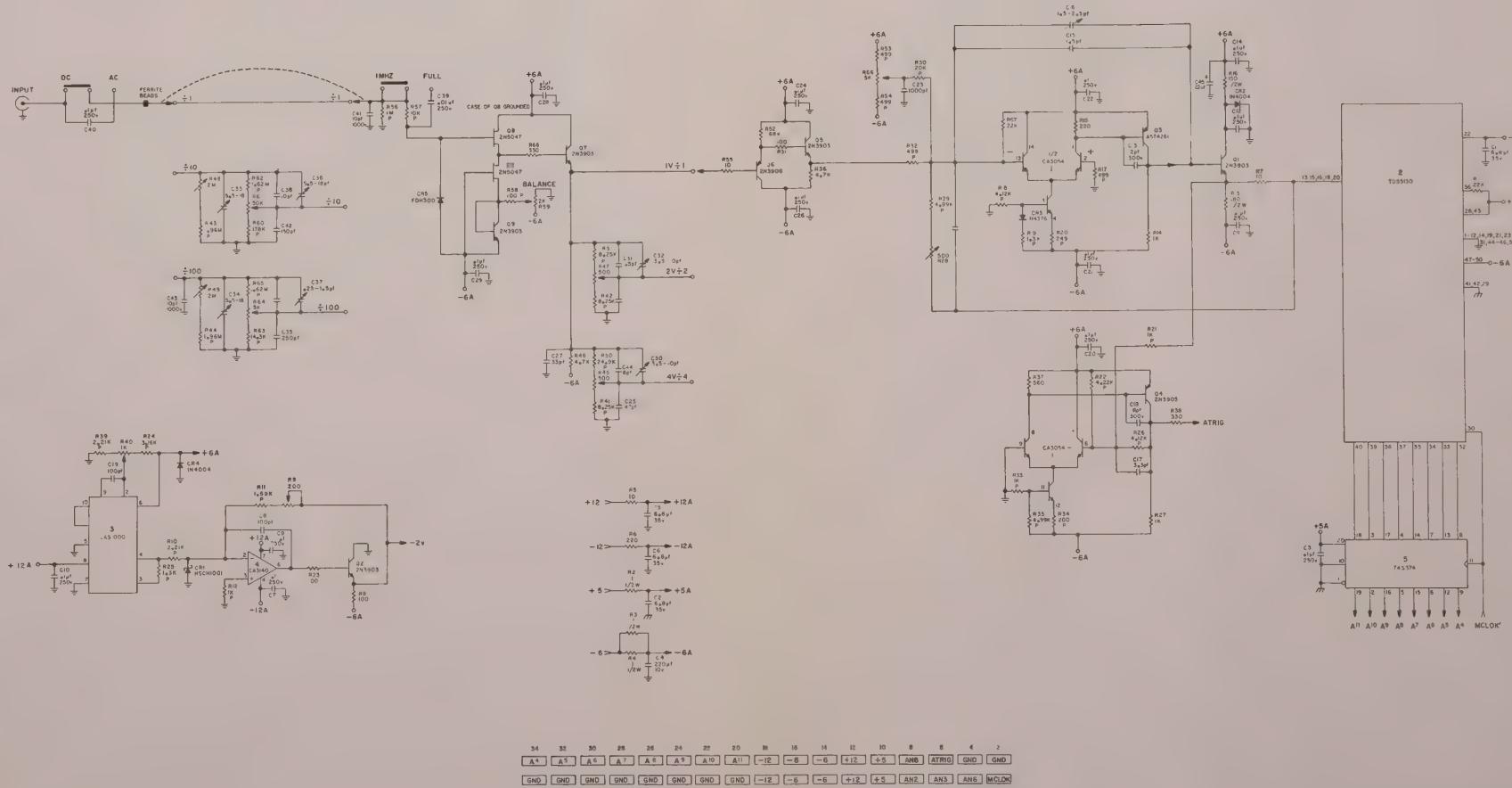
201 PLUG-IN CONTROL BOARD

000-9038-02,04 LEK 12-10-80



204-A PLUG-IN DIGITIZER BOARD  
- COMPONENT SIDE -

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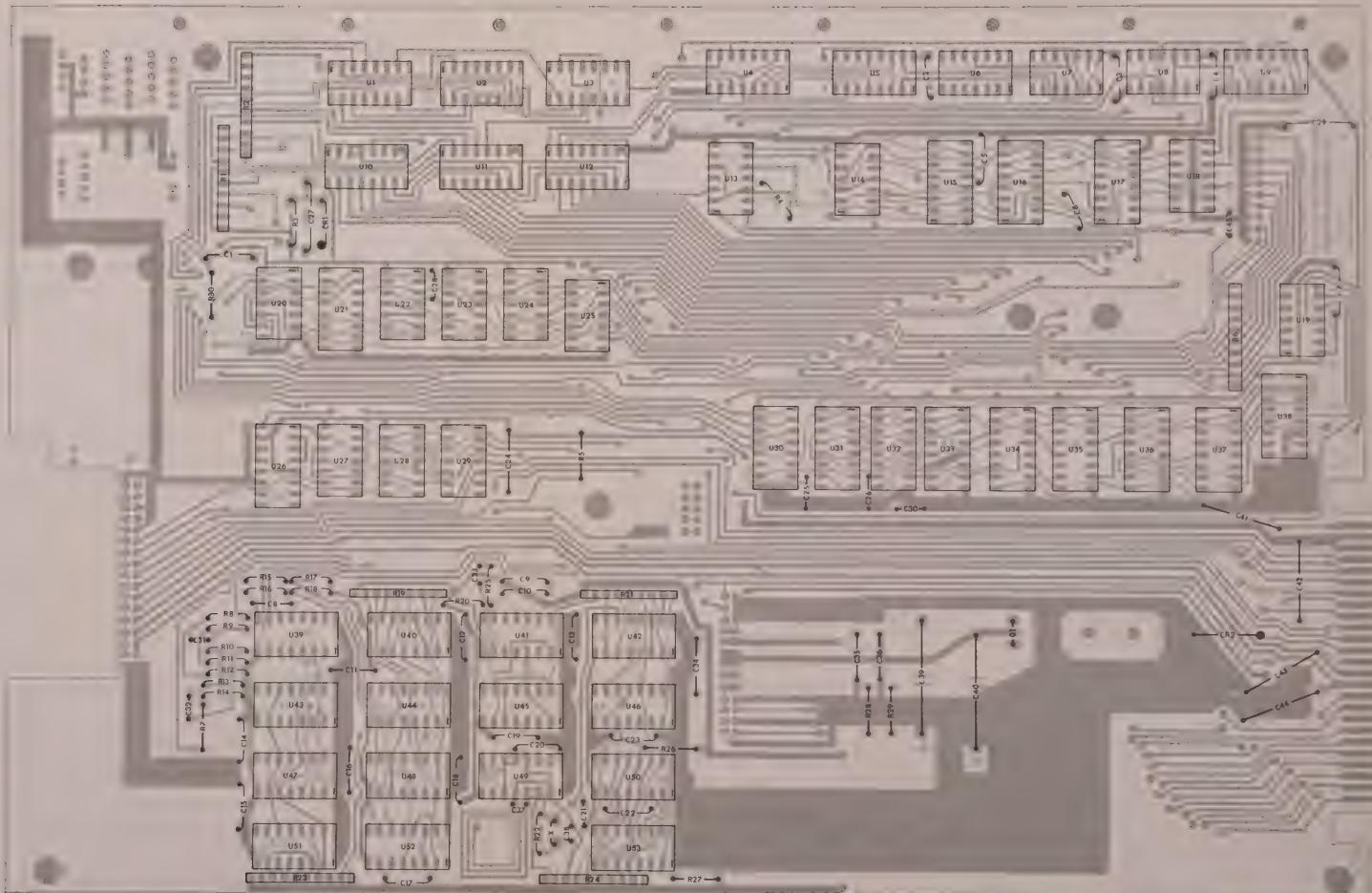


(CHANNEL B CONNECTOR IS THE SAME PINOUT — REPLACE A's WITH B's)

NICOLET INSTRUMENT CORP

204-A PLUG-IN DIGITIZER BOARD

000-9063-03 MDK 11-20-80

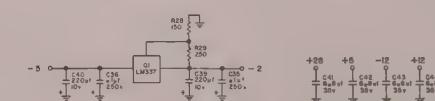
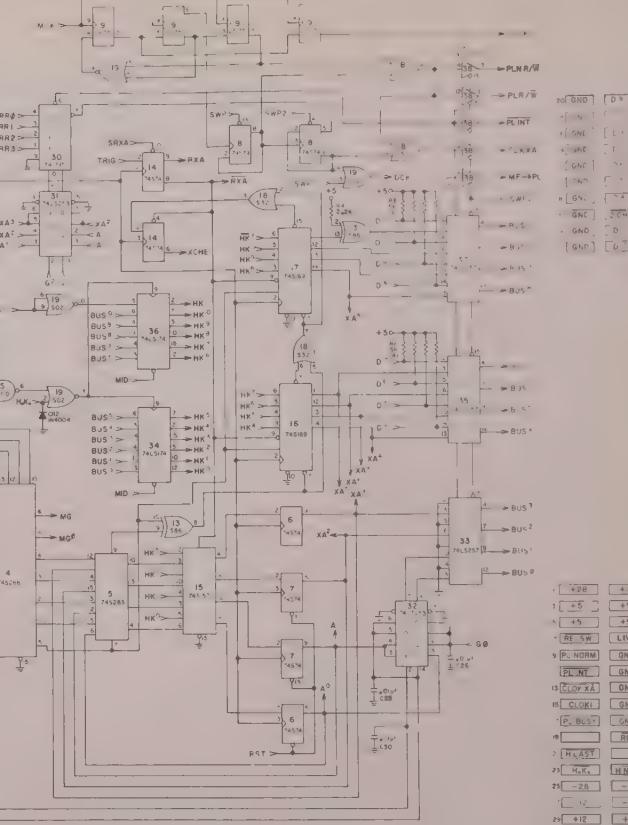
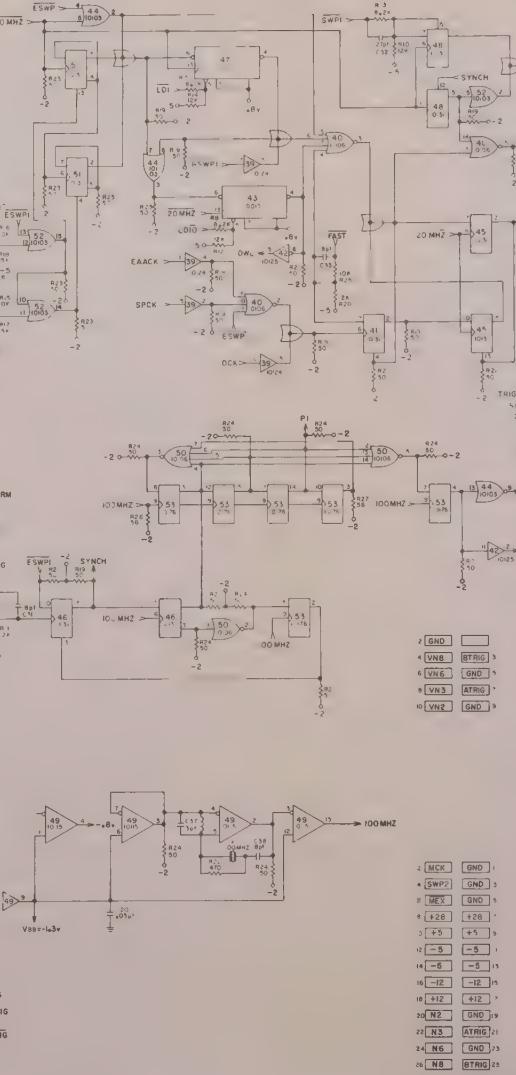


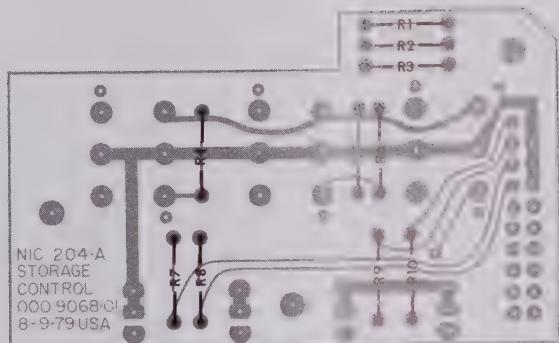
204-A PLUG-IN CONTROL BOARD  
- CONDUCTOR SIDE -

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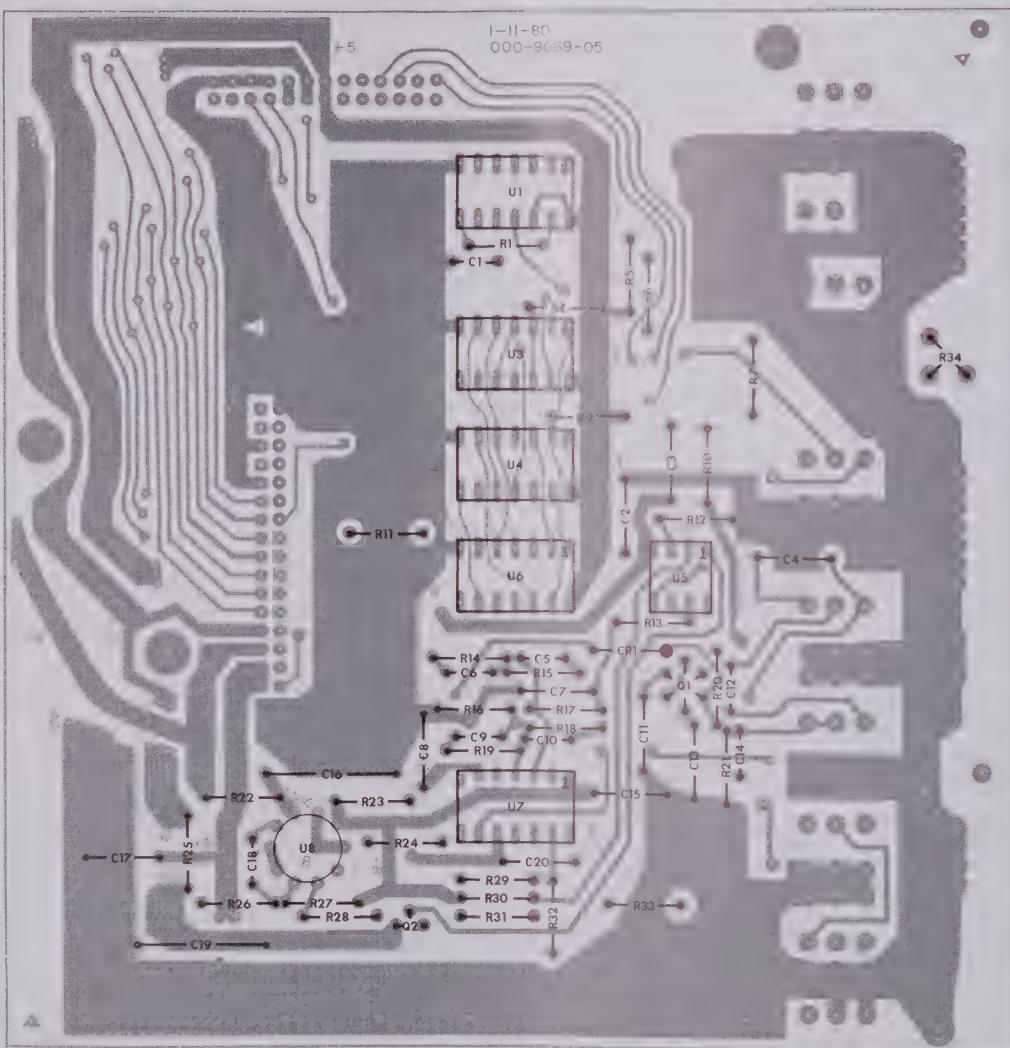


TIME BASE SWITCH  
PINOUT  
ALL TIME BASE SIGNALS HAVE  
5K PULL UP RESISTOR  
RLR2.  
OI VERSION ICS 44 AND 53 ARE  
95L25'S



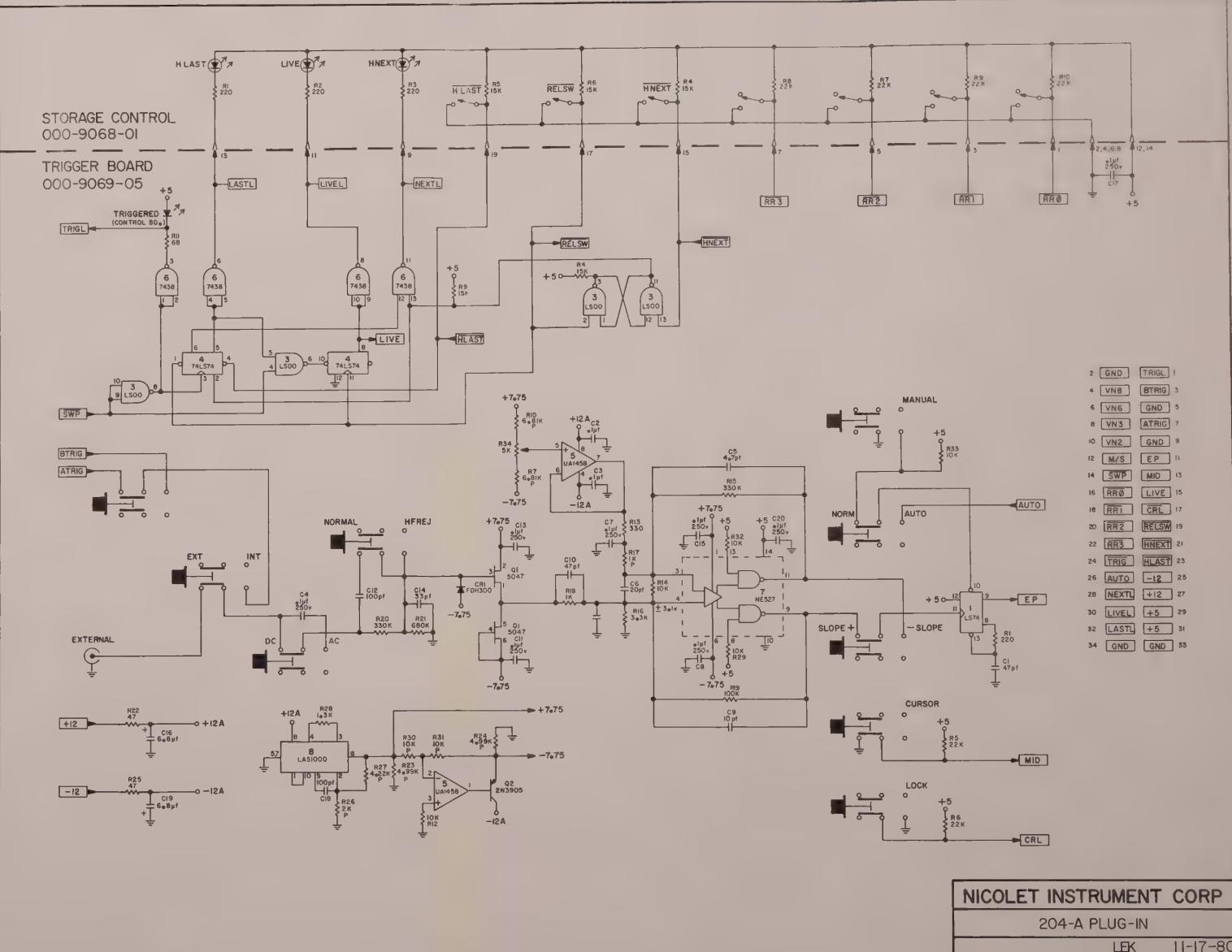


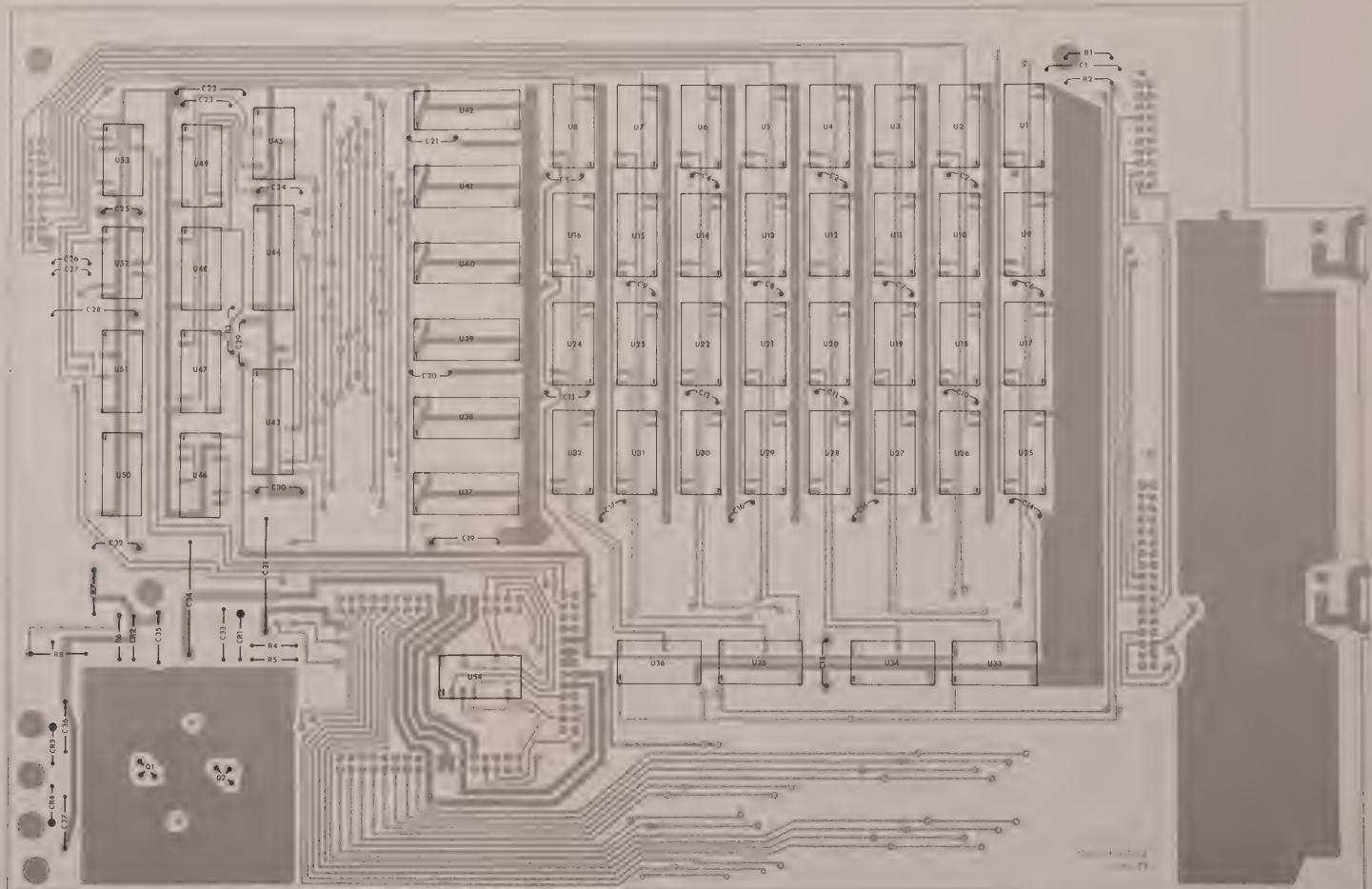
204-A STORAGE CONTROL  
- CONDUCTOR SIDE -



204-A TRIGGER BOARD  
-COMPONENT SIDE-

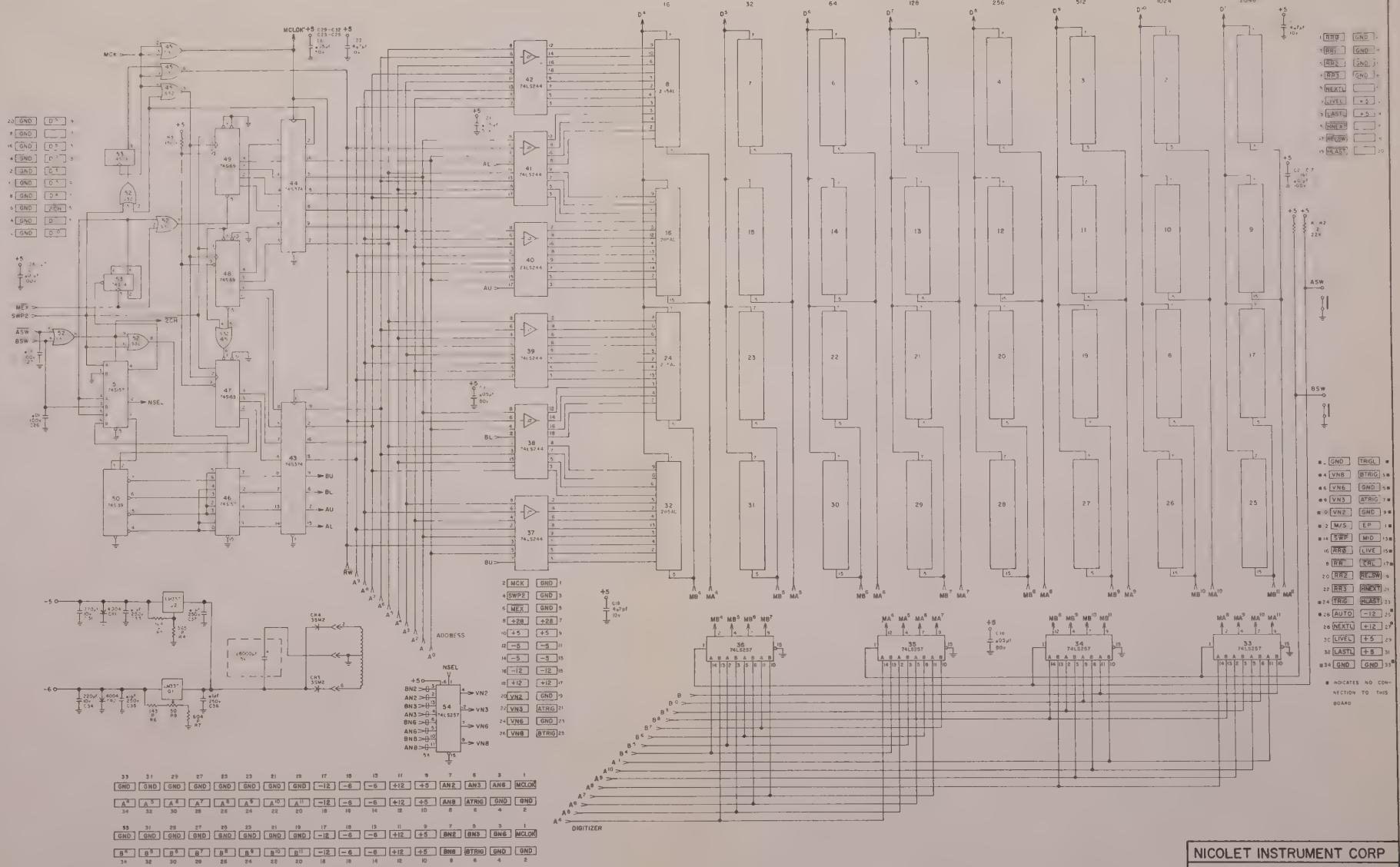
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204-A PLUG IN MEMORY BOARD  
—COMPONENT SIDE—

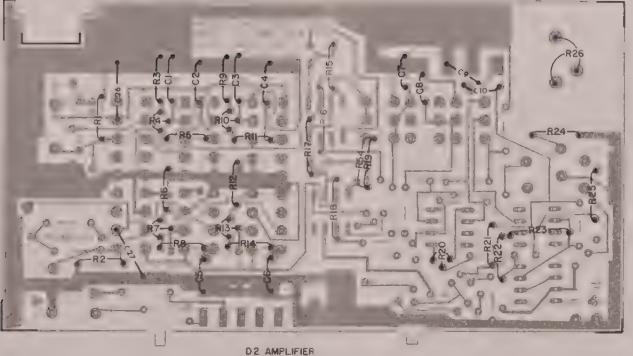
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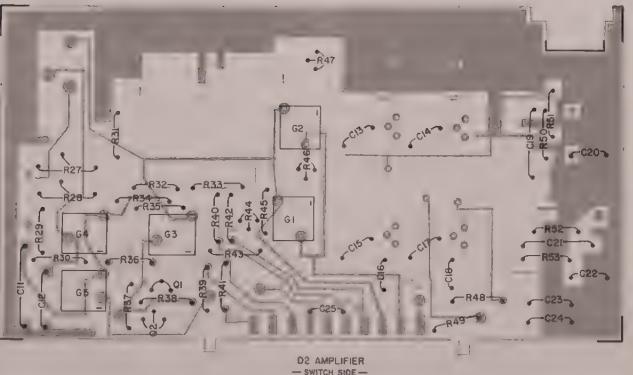
NICOLET INSTRUMENT CORP

204A PLUG-IN MEMORY BOARD

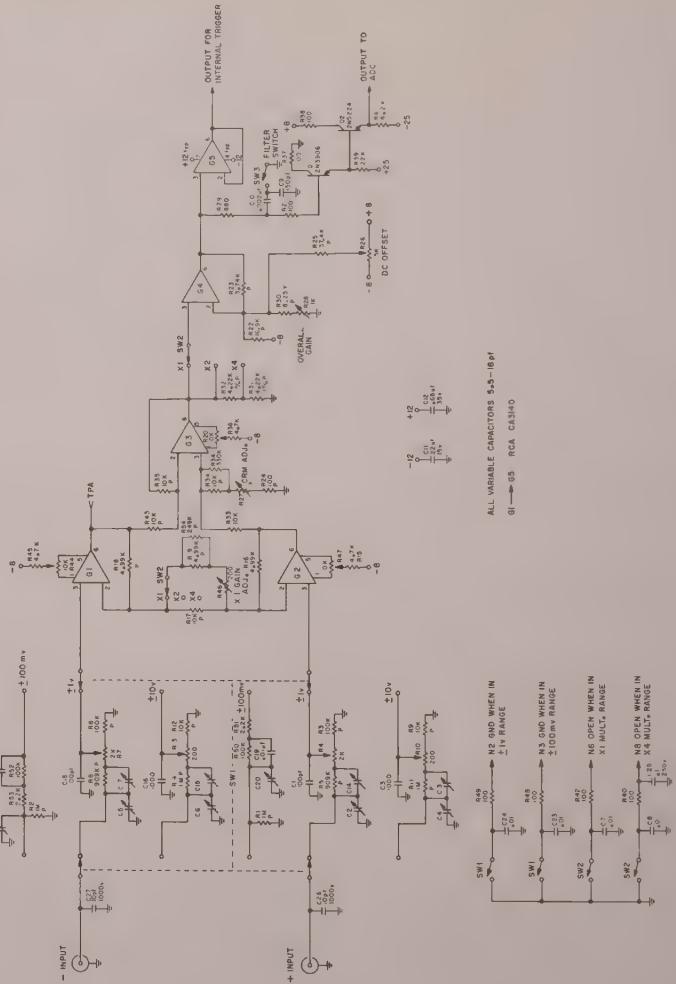
000-9067-02 LBK 11-17-80



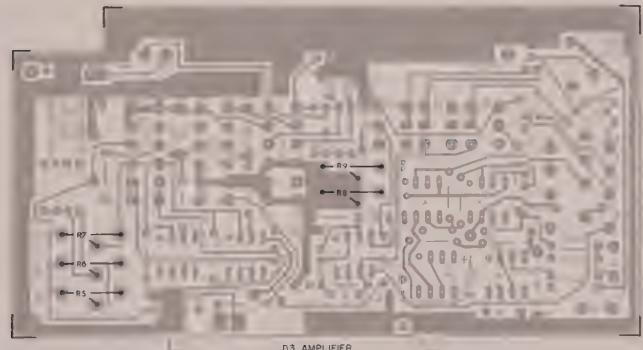
D2 AMPLIFIER  
— CONDUCTOR SIDE —



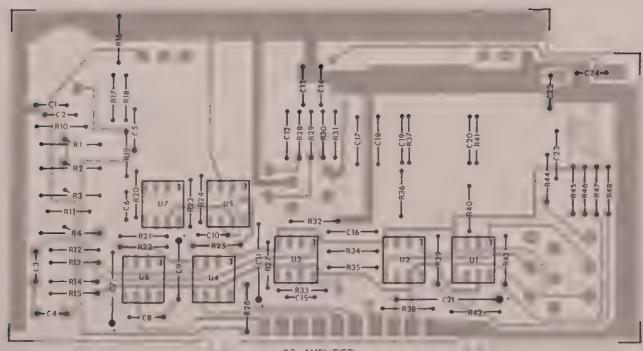
D2 AMPLIFIER  
— SWITCH SIDE —



ALL VARIABLE CAPACITORS 5-45 - 88 pF  
GI — 8511 RCA CA3180

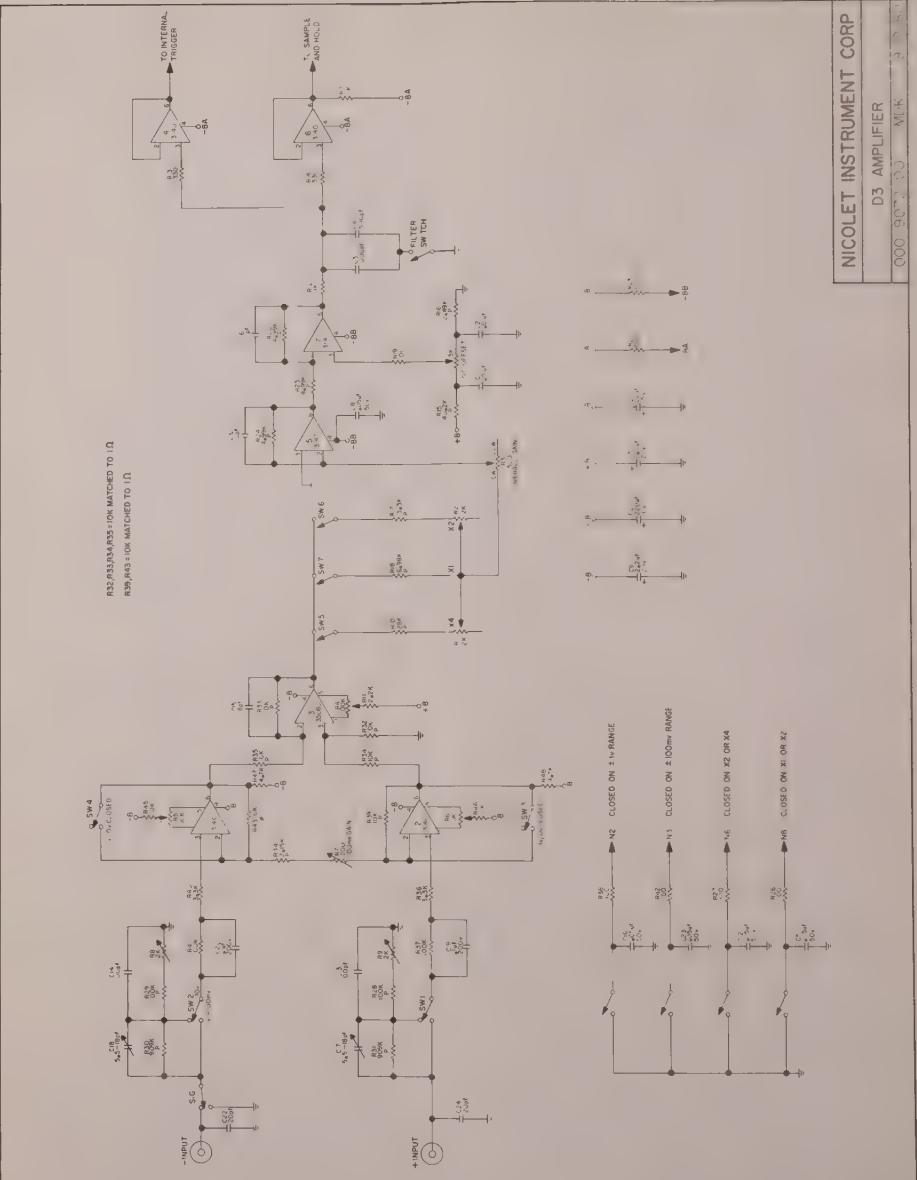


D3 AMPLIFIER  
CONDUCTOR SIDE



D3 AMPLIFIER  
COMPONENT SIDE

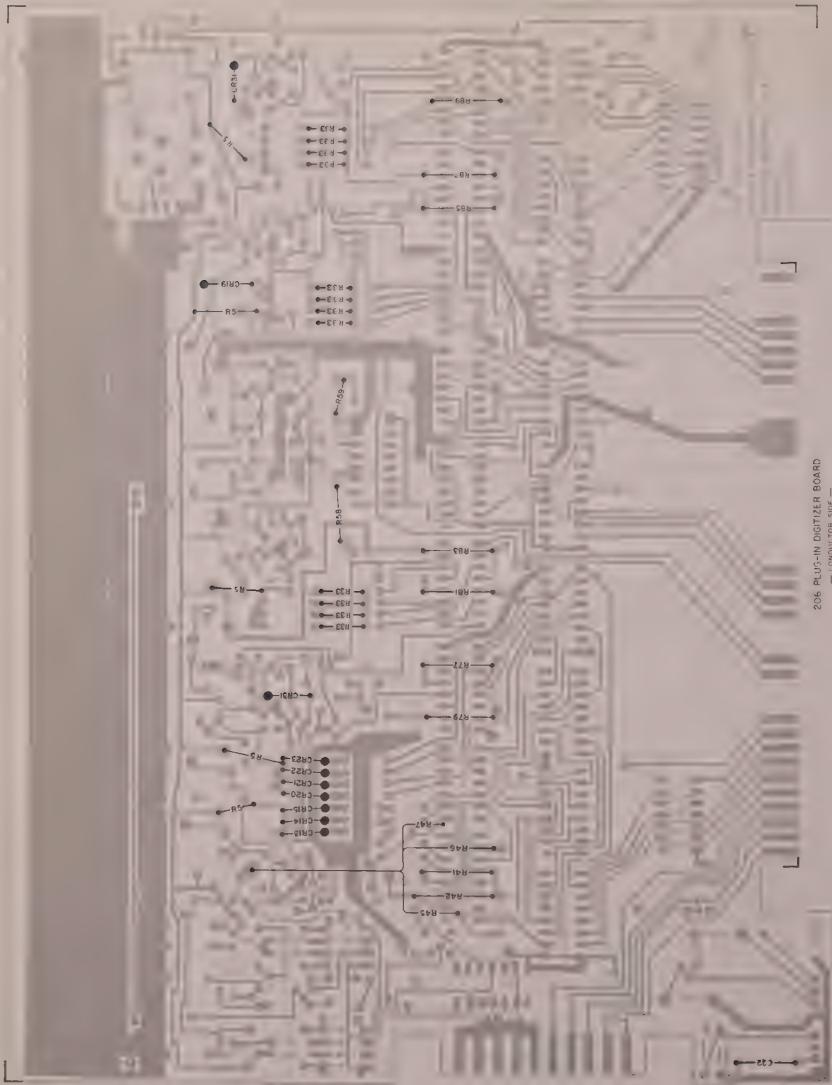
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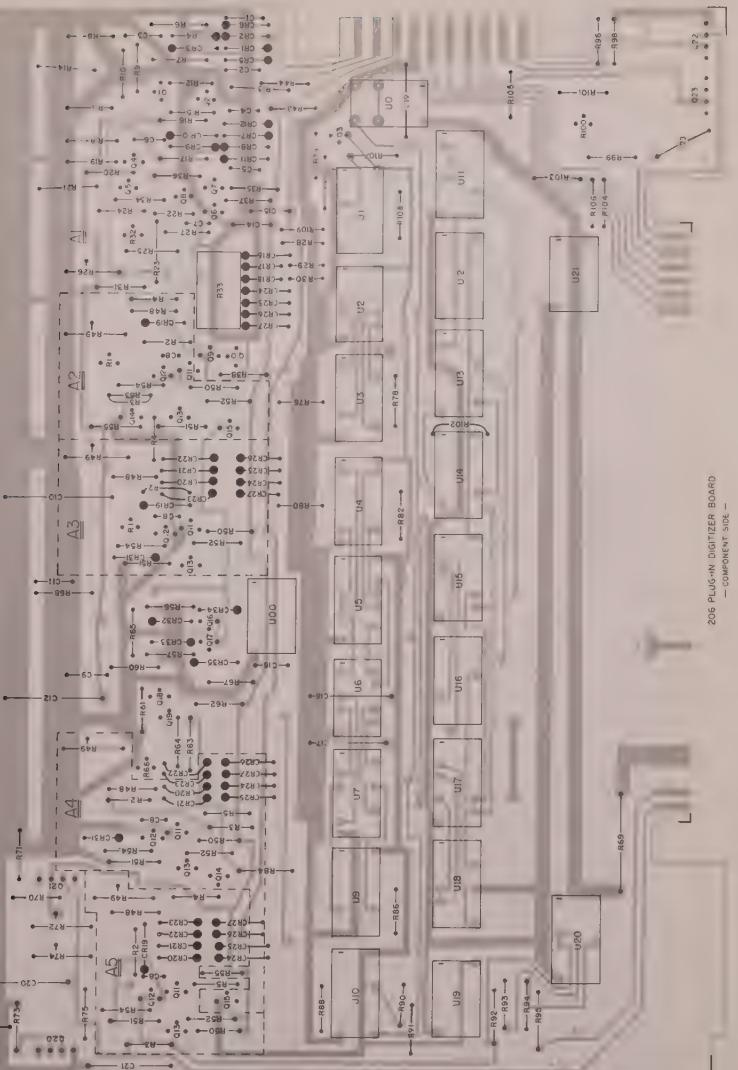
NICOLET INSTRUMENT CORP  
D3 AMPLIFIER  
000 9057 00 MILK

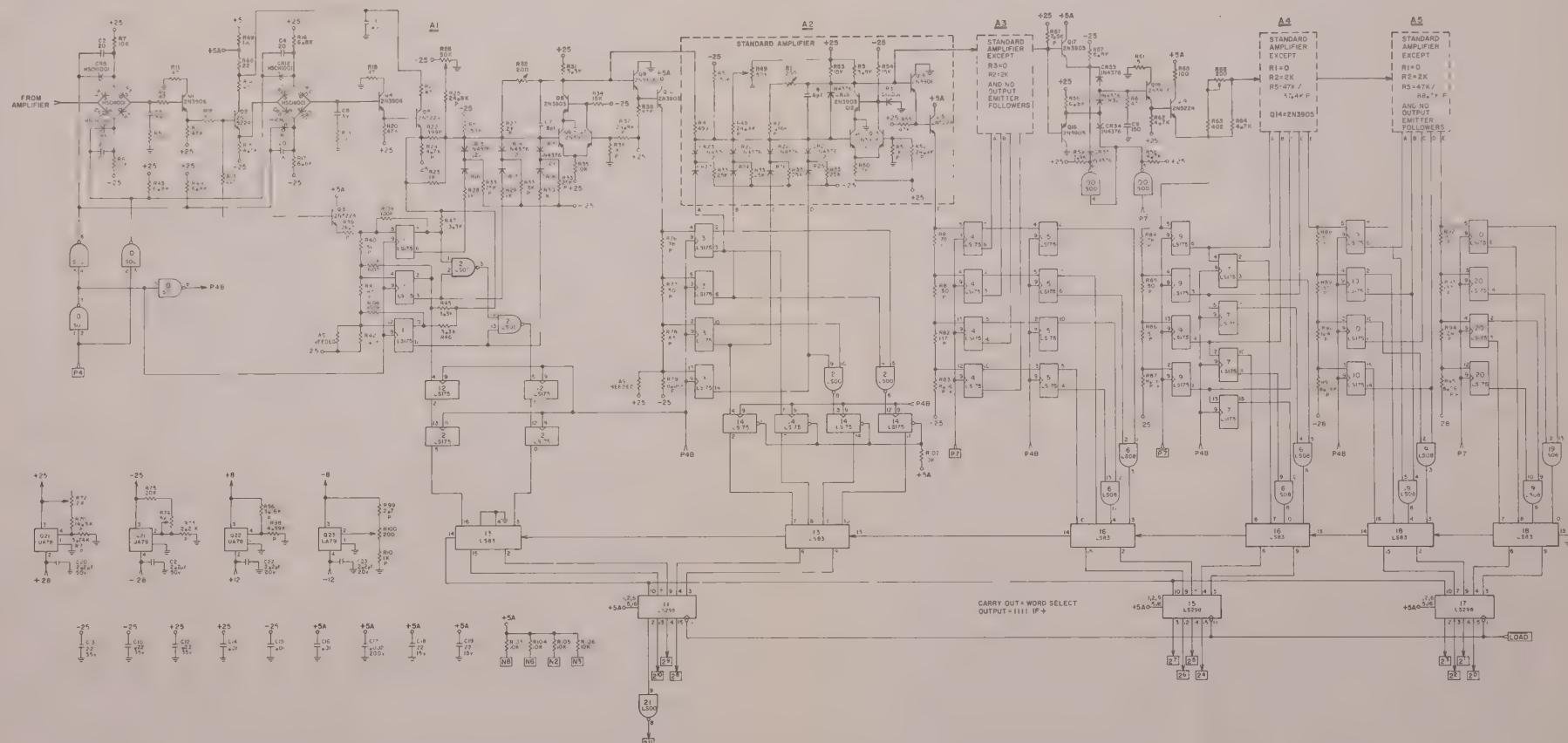
206 PLUG-IN DIGITIZER BOARD

— CONDUCTOR SIDE —



206 PLUG-IN DIGITIZER BOARD  
— COMPONENT SIDE —



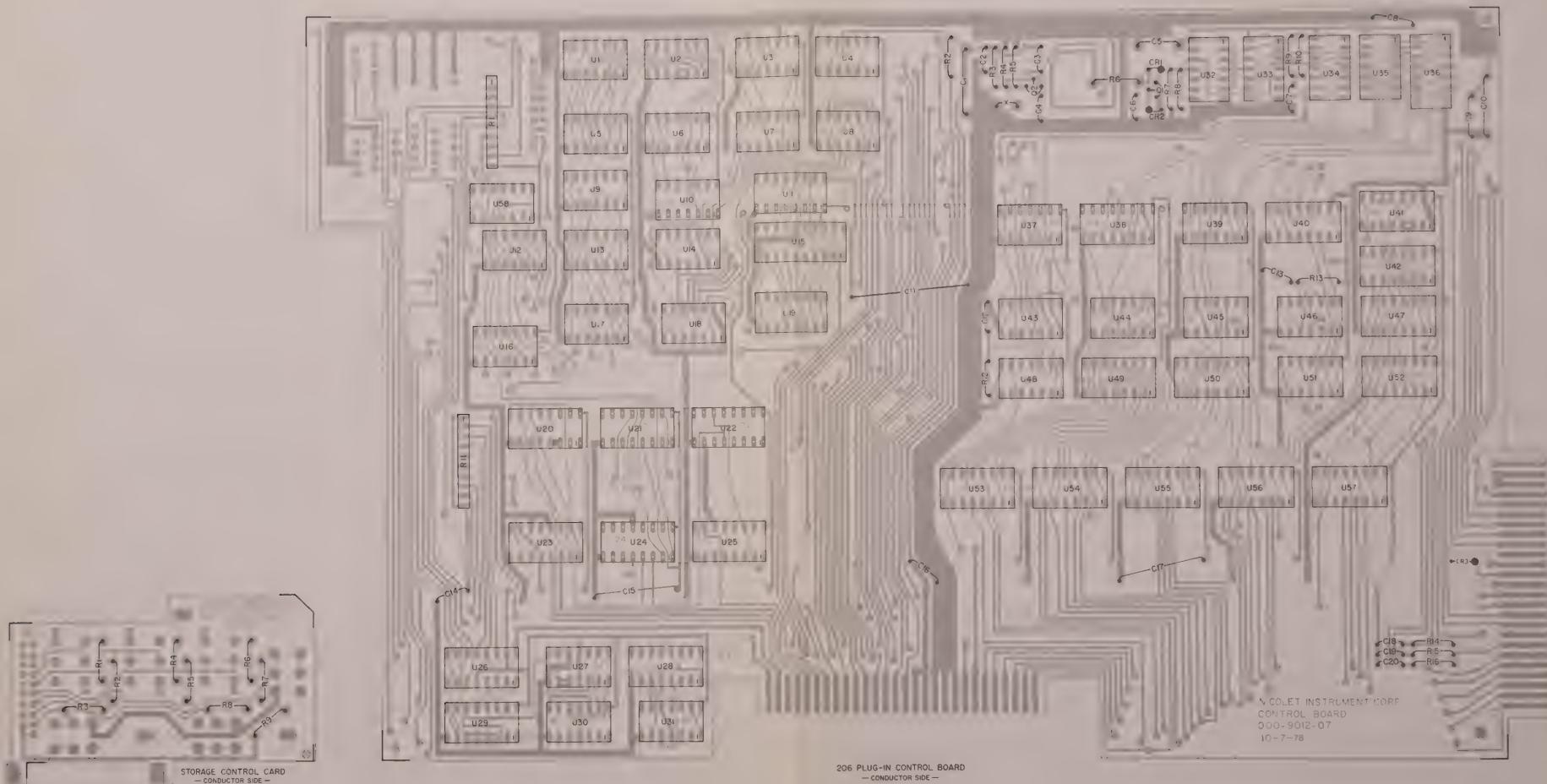


NICOLET INSTRUMENT CORP.

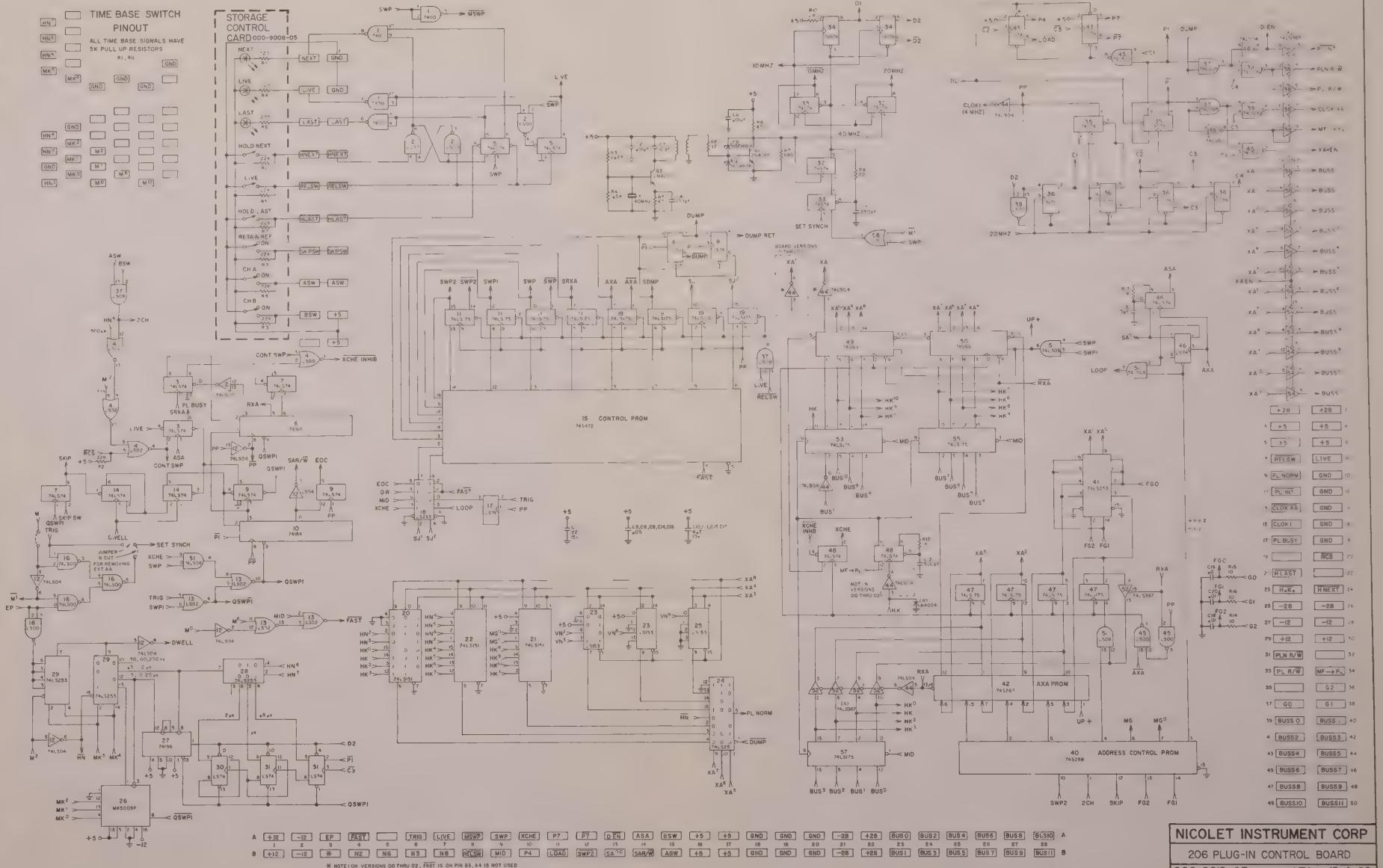
206 PLUG-IN DIGITIZER BOARD

000-9009-05

LEK



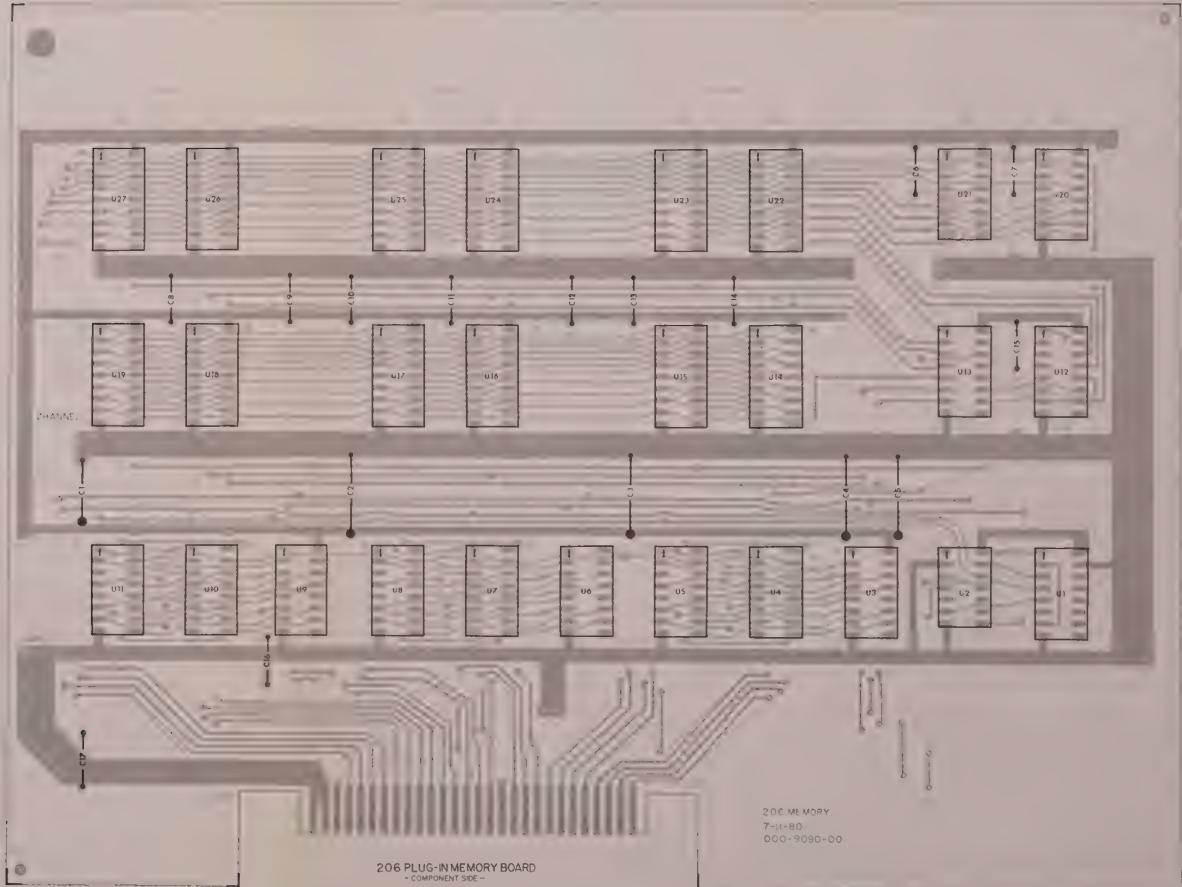
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**NICOLET INSTRUMENT CORP**

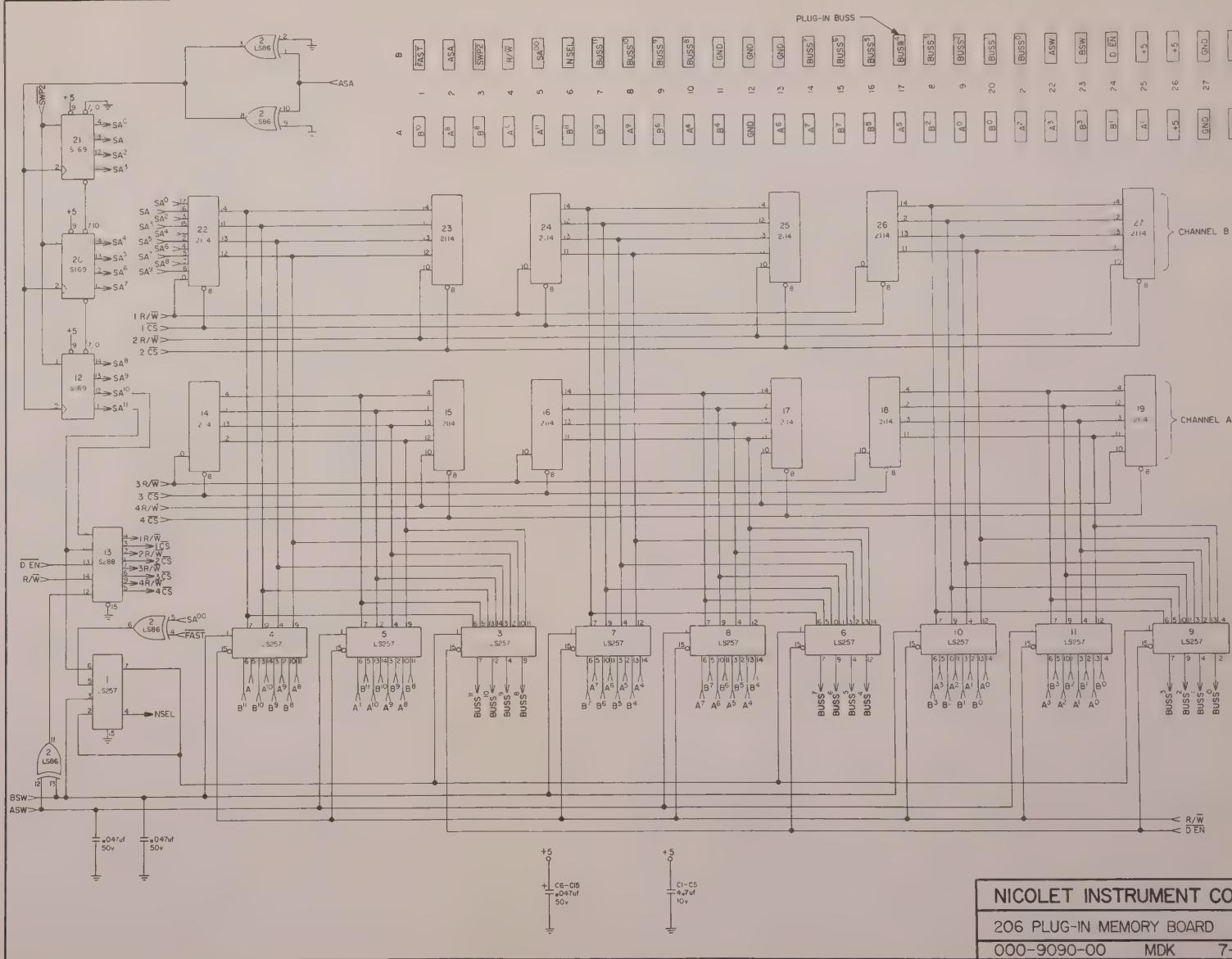
206 PLUG-IN CONTROL BOARD

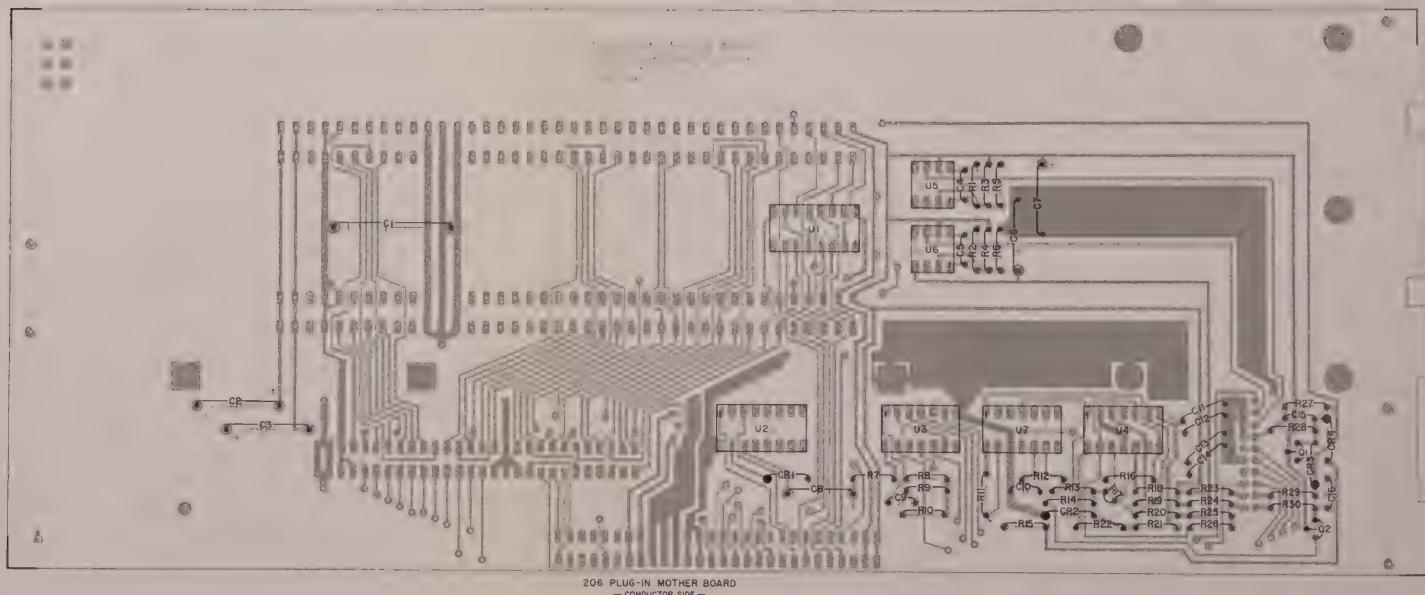
000-9012-07 LEB 12-4-80



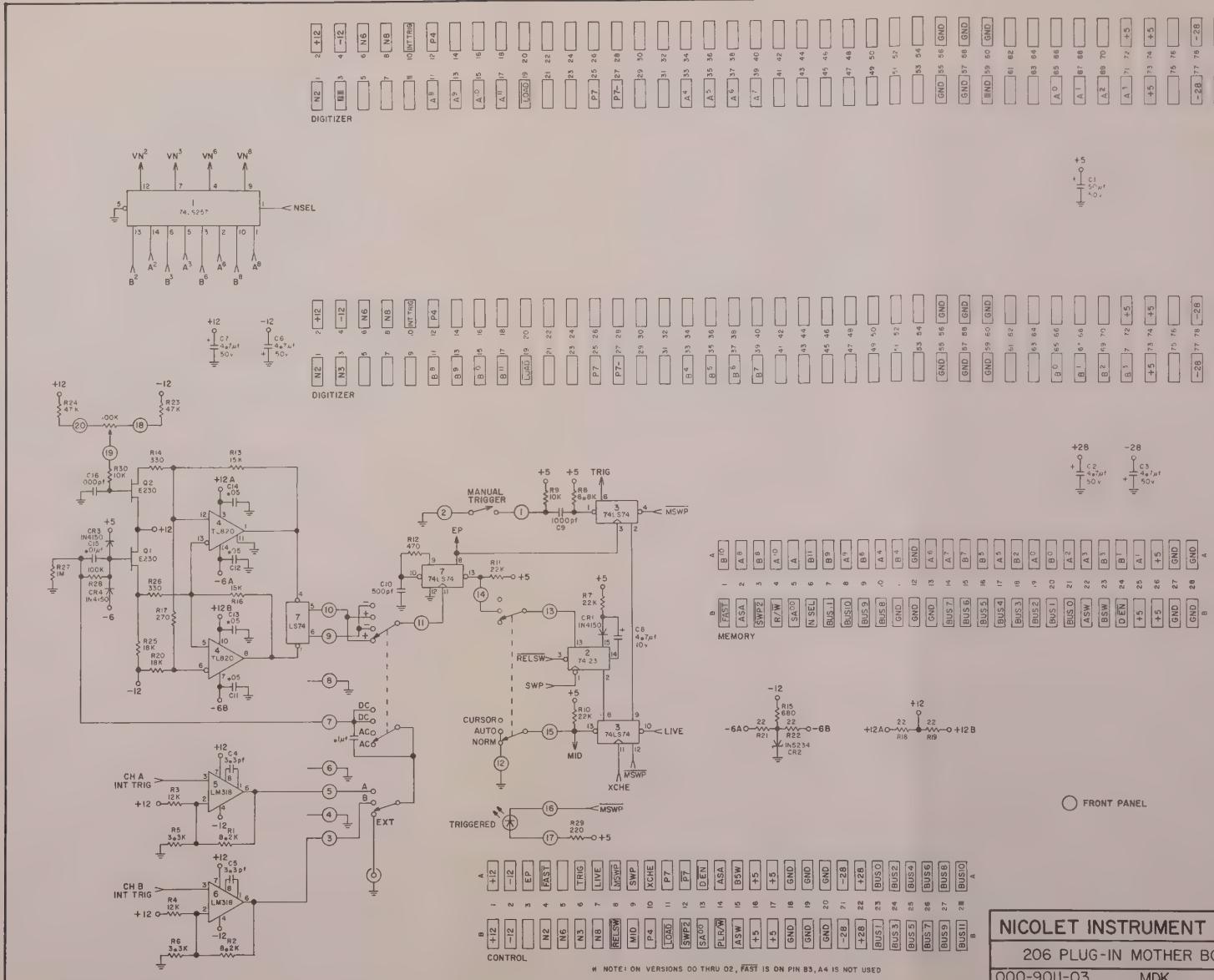
206 PLUG-IN MEMORY BOARD  
- COMPONENT SIDE -

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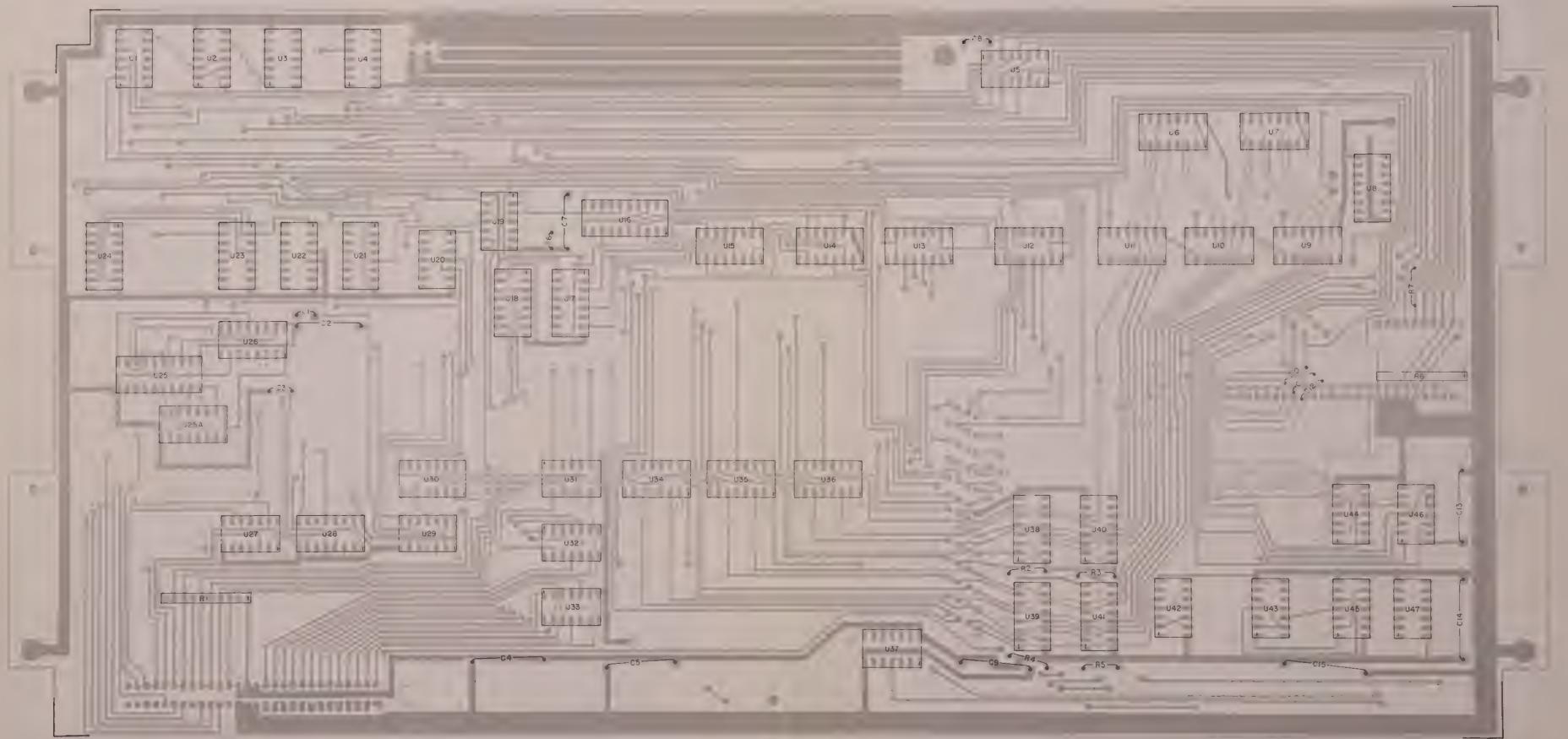




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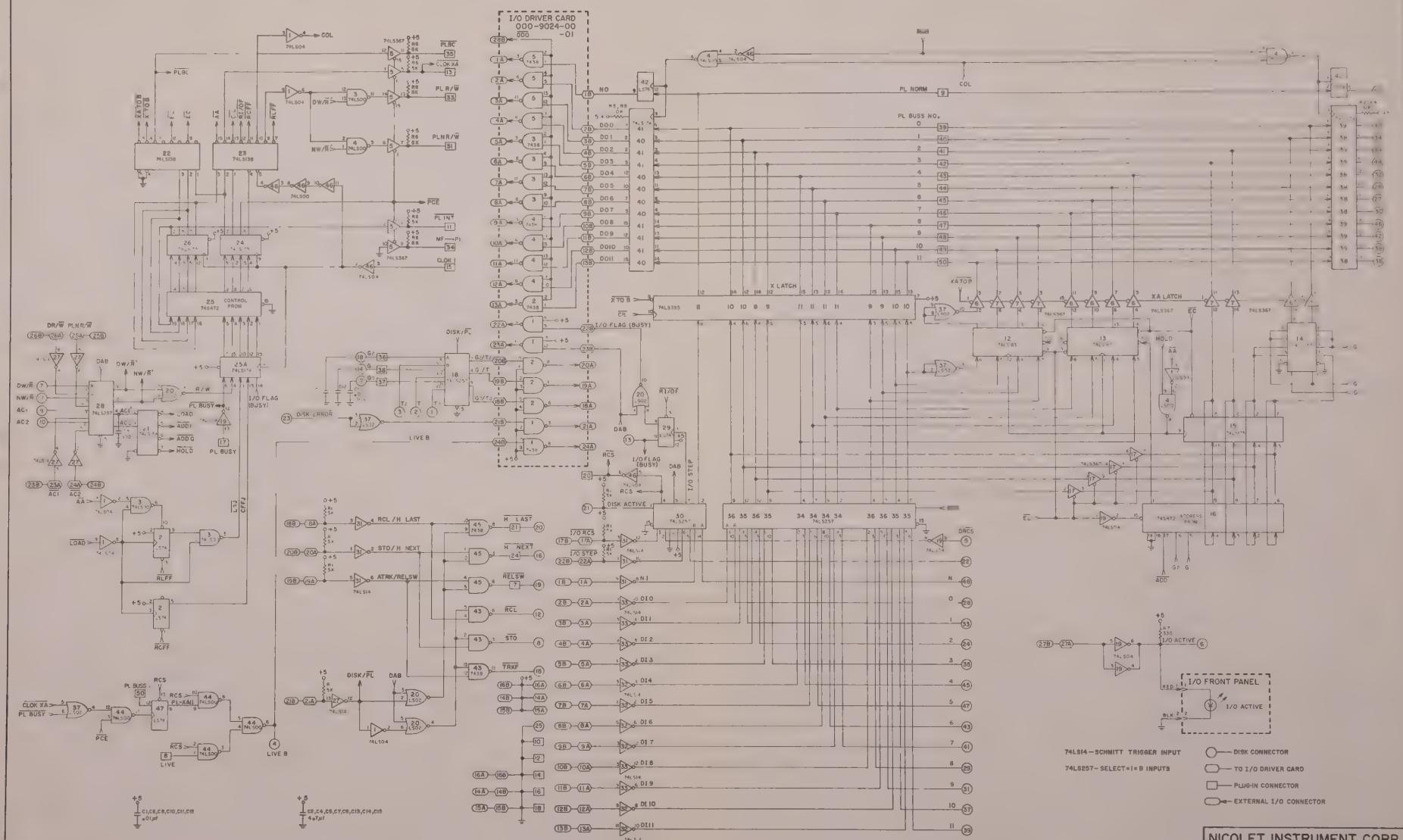


NICOLET INSTRUMENT CORP	
206 PLUG-IN MOTHER BOARD	
000-9011-03	MDK
6-16-80	



I/O BOARD  
— CONDUCTOR SIDE —

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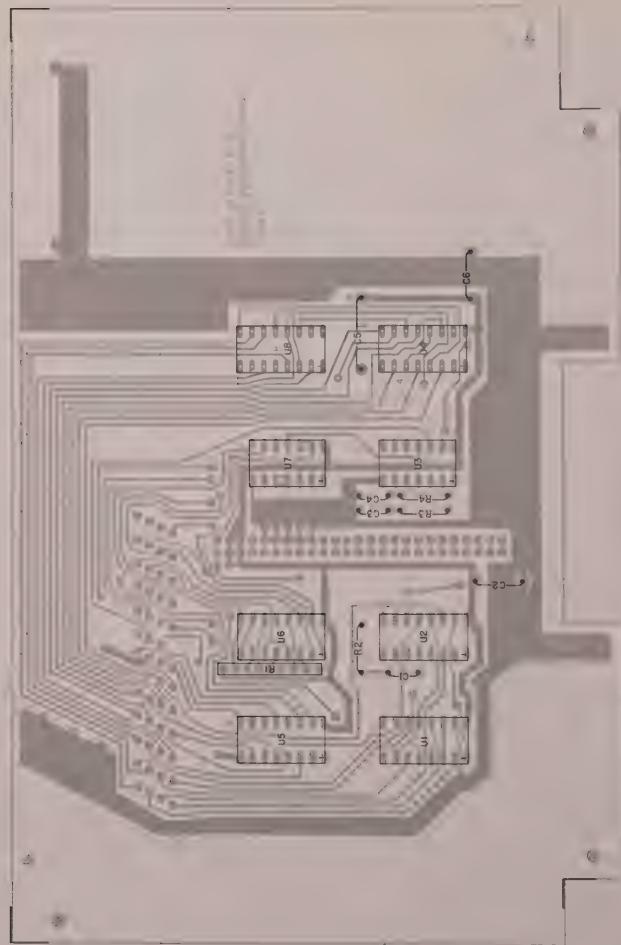
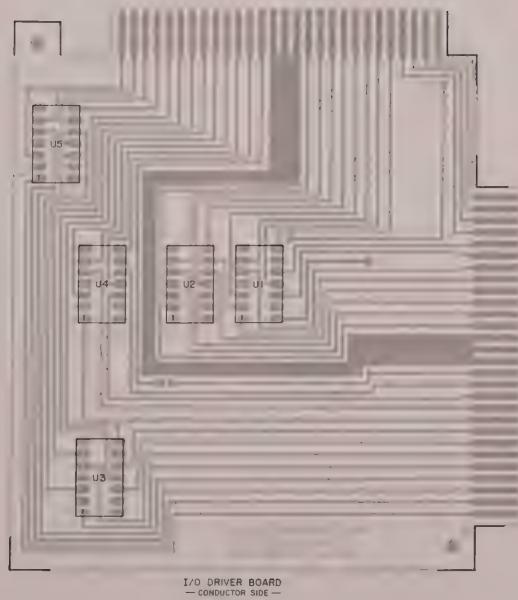
Legend:

- Disk Connector
- TQ I/O Driver Card
- Plug-in Connector
- External I/O Connector

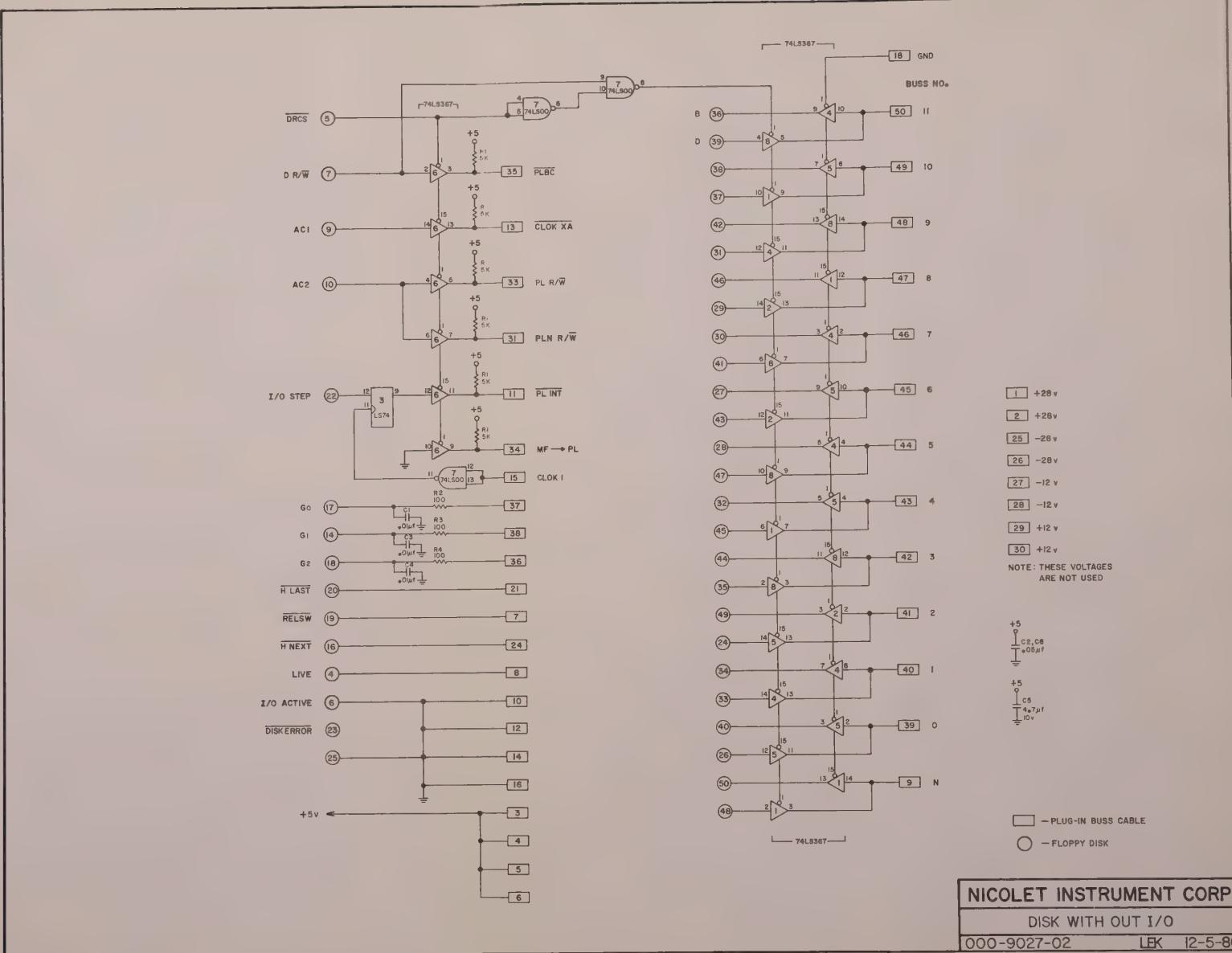
NICOLET INSTRUMENT CORP

I/O BOARDS

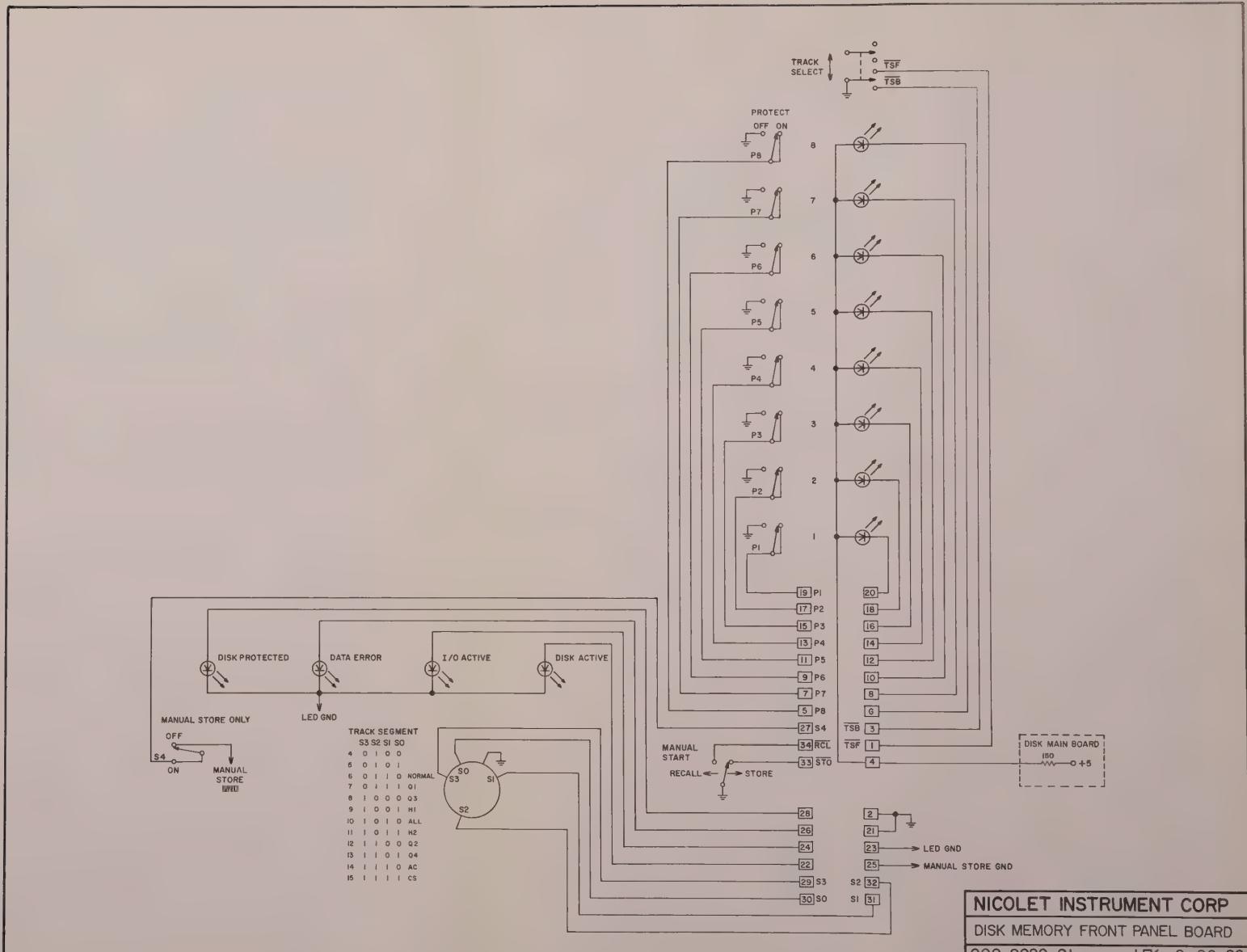
000-9022-05 LEK 9-26-80



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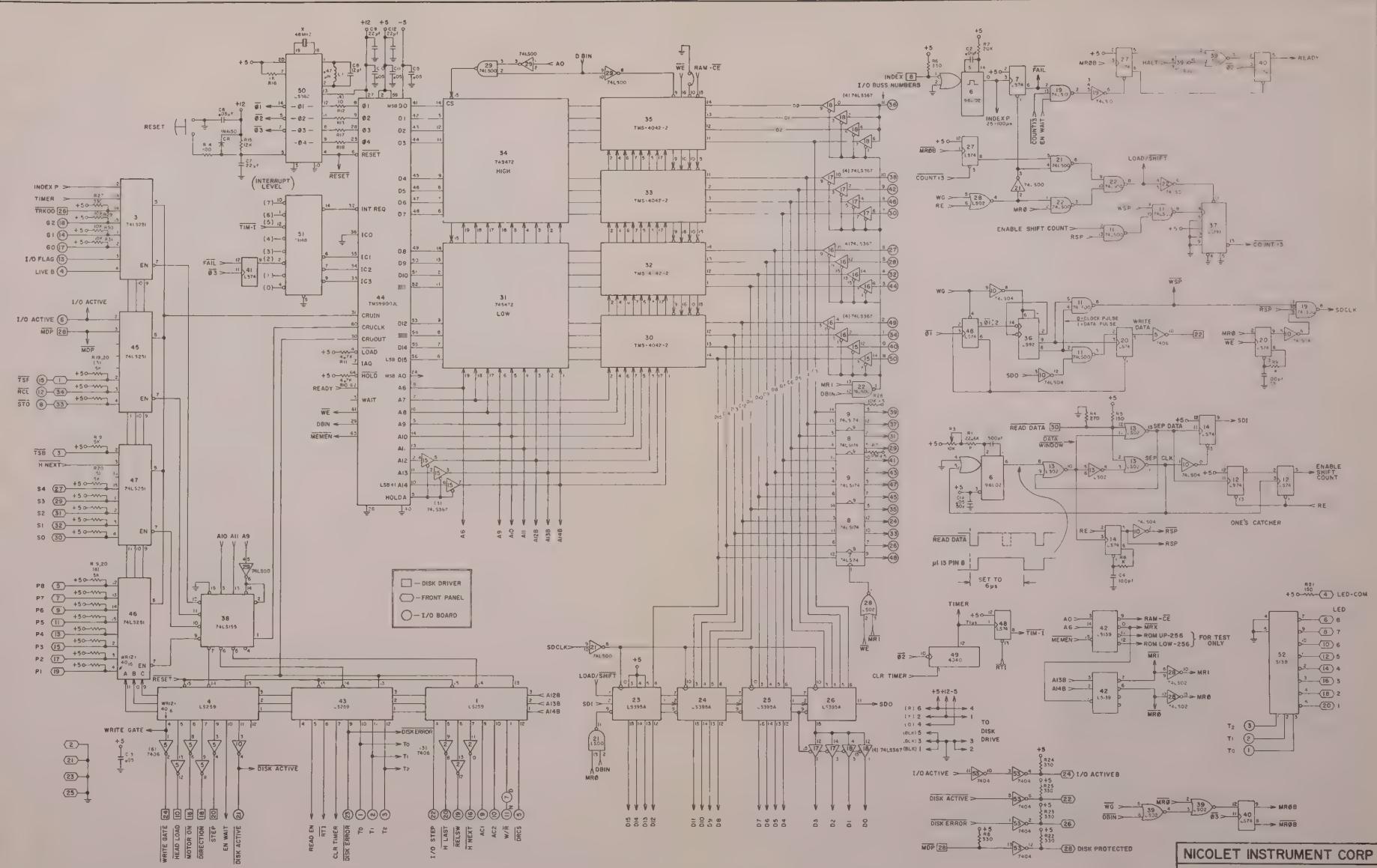
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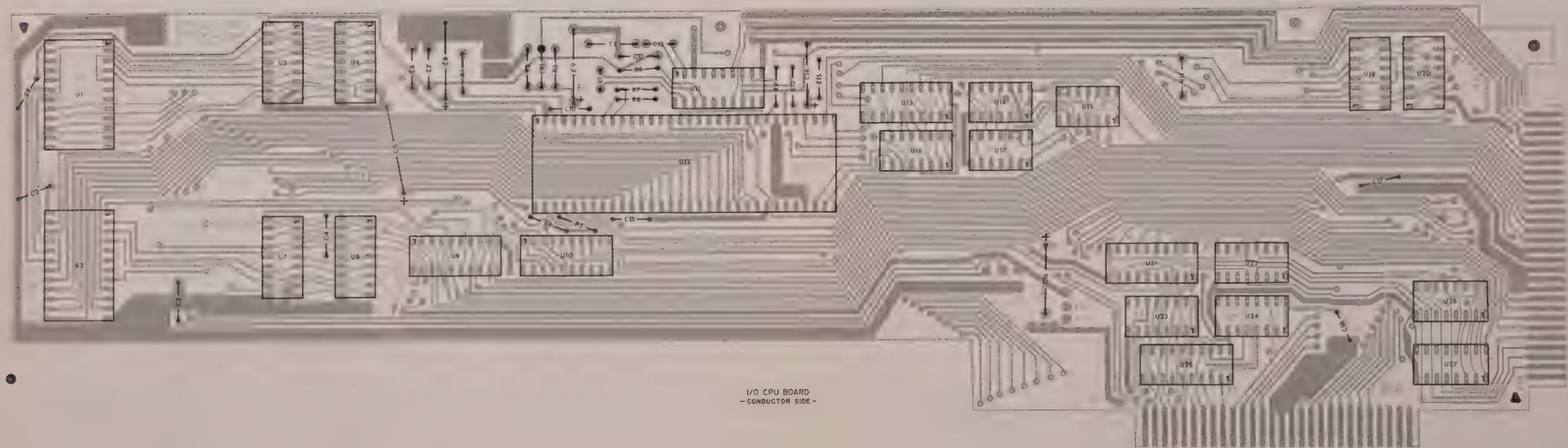


DISK MAIN BOARD  
— CONDUCTOR SIDE —

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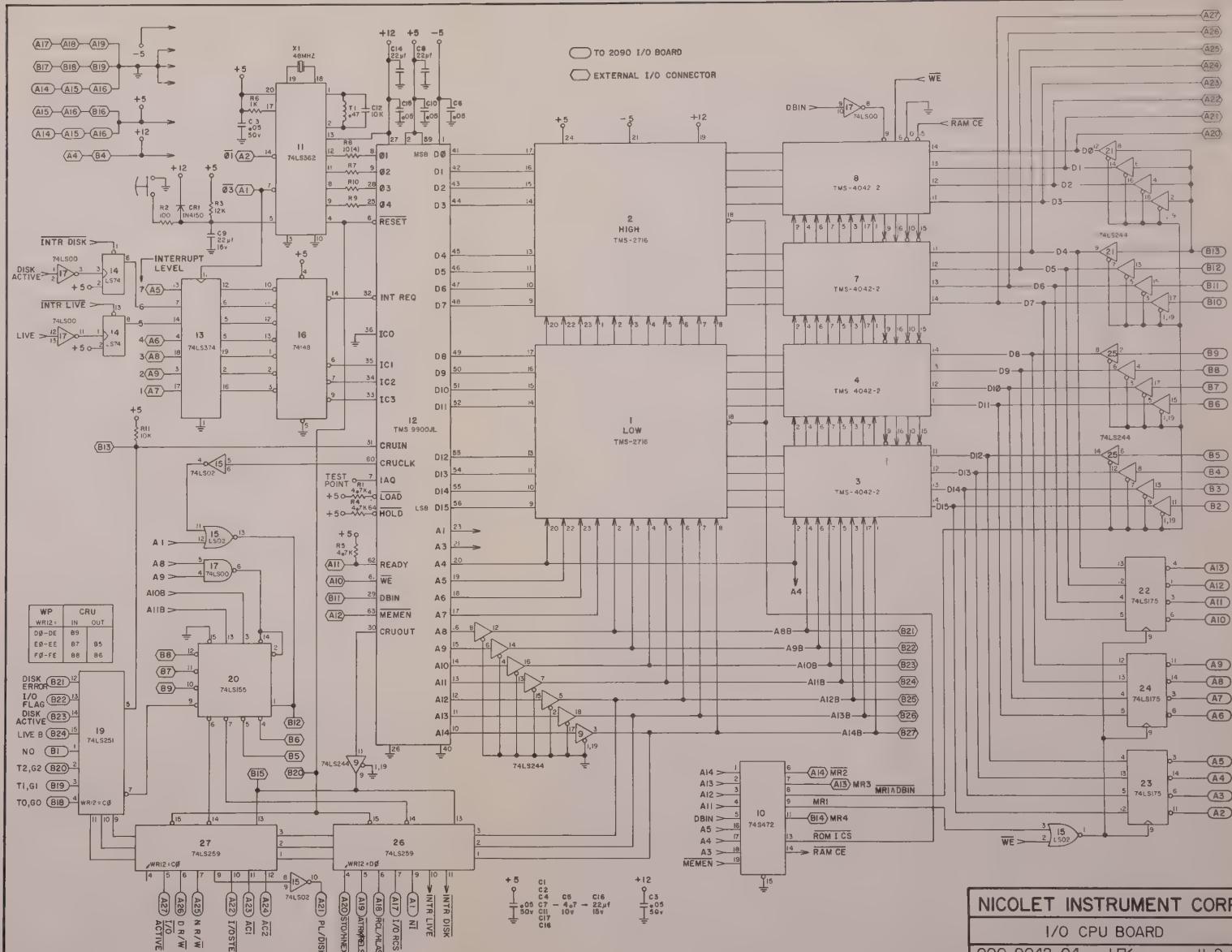


NICOLET INSTRUMENT CORP  
DISK MAIN BOARD  
000-9019-05 LEK 12-5-80



I/O CPU BOARD  
CONDUCTOR SIDE

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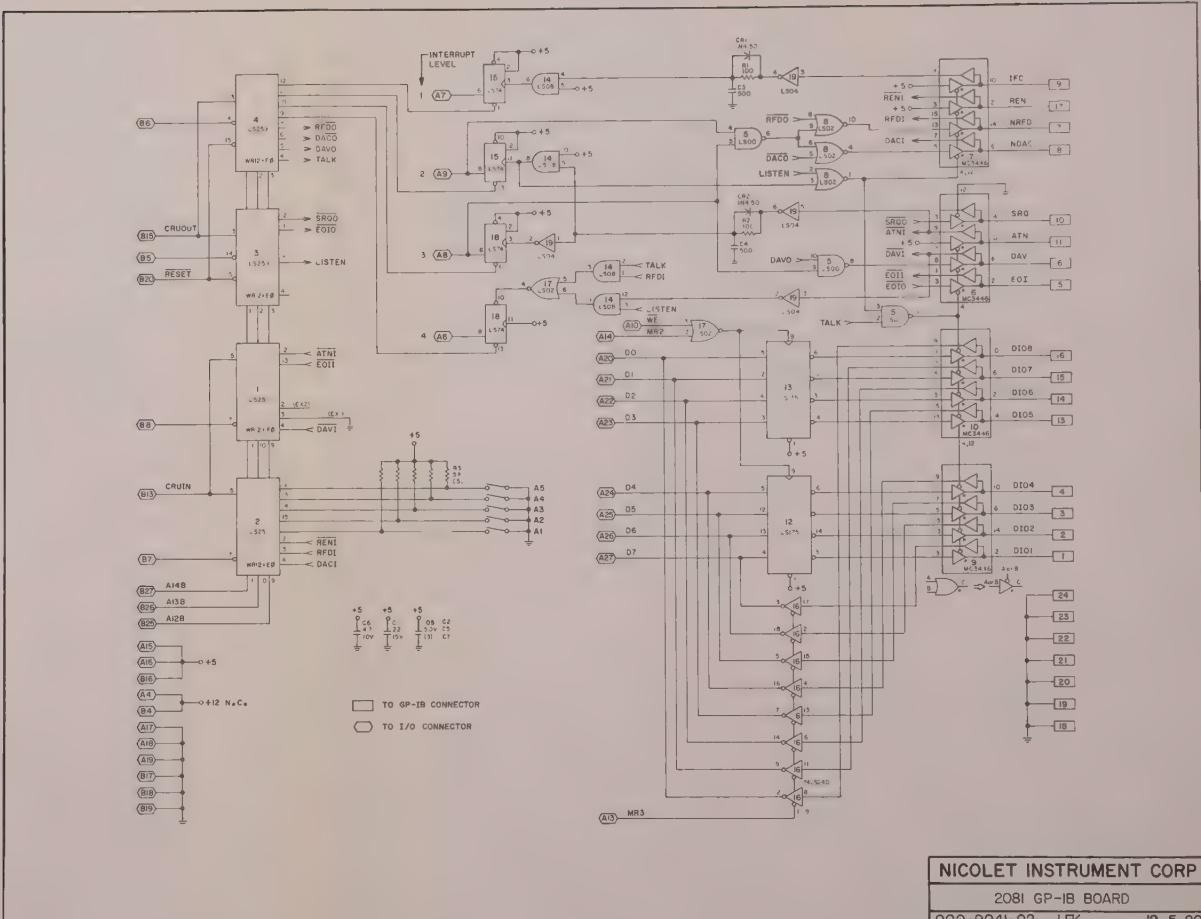
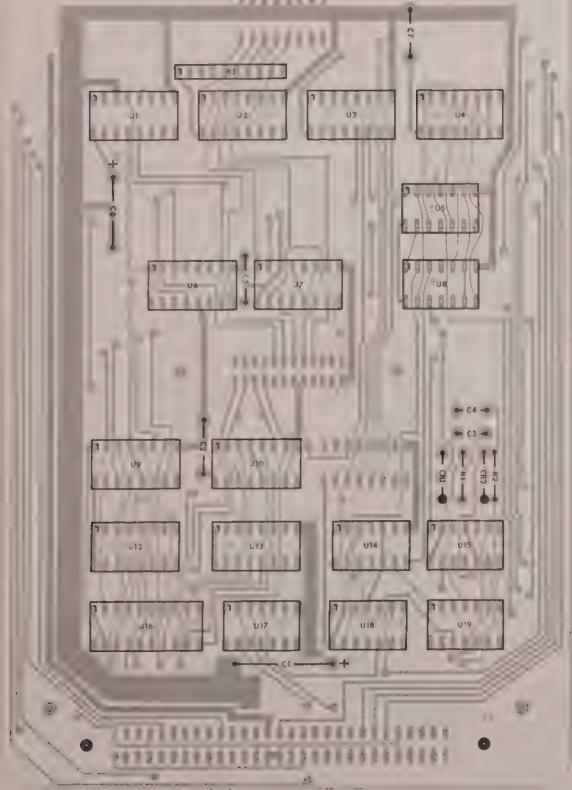


NICOLET INSTRUMENT CORP

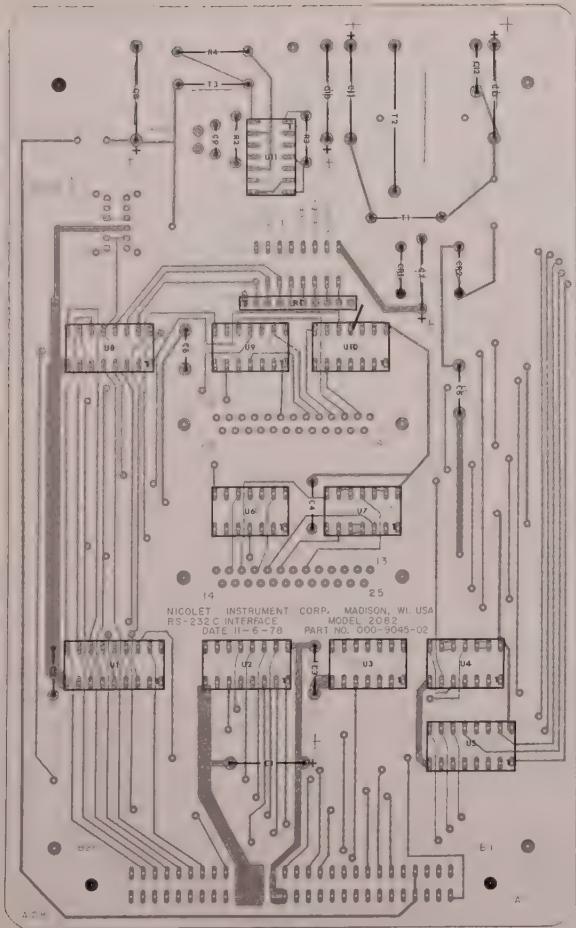
I/O CPU BOARD

000-9042-04 LFK

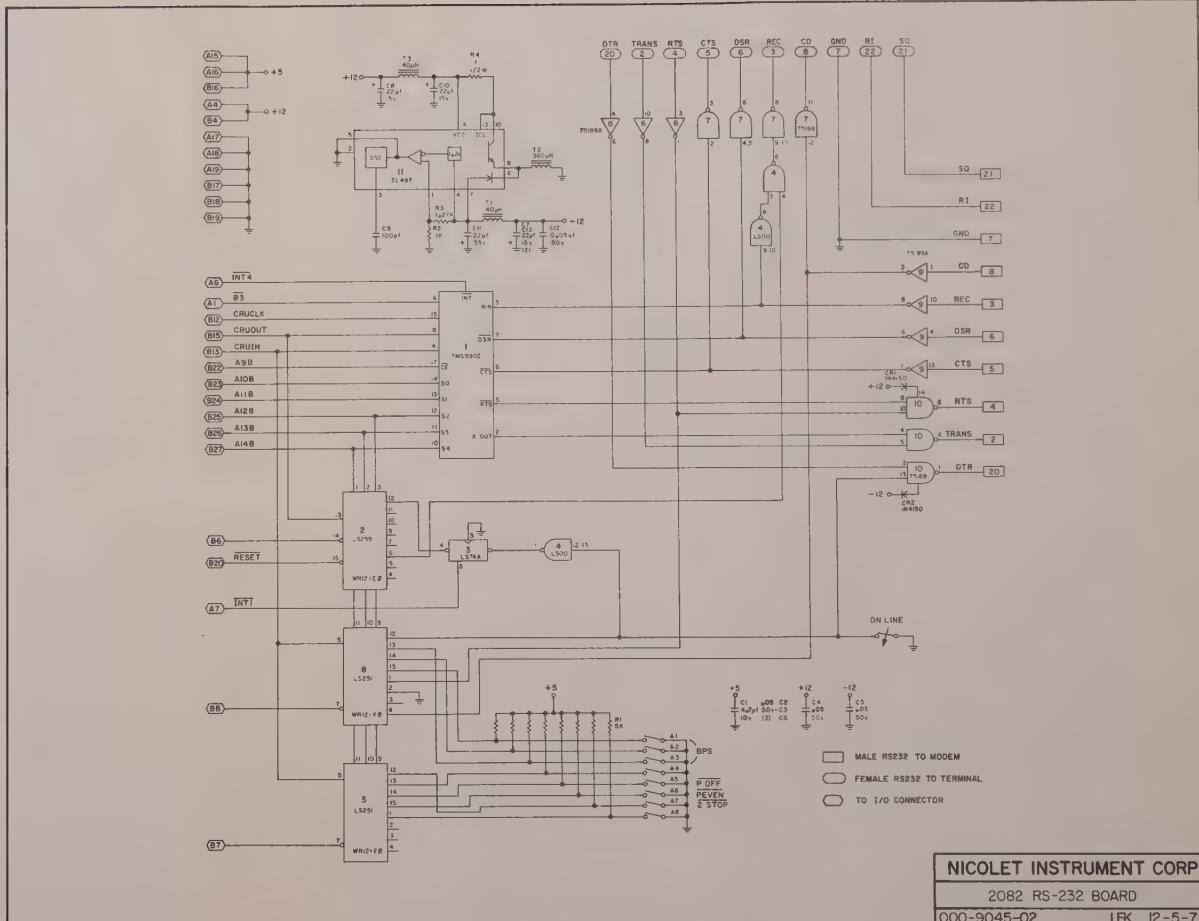
II-2-80



NICOLET INSTRUMENT CORP.  
208I GP-IB BOARD  
000-904I-02 LEK 12-5-80

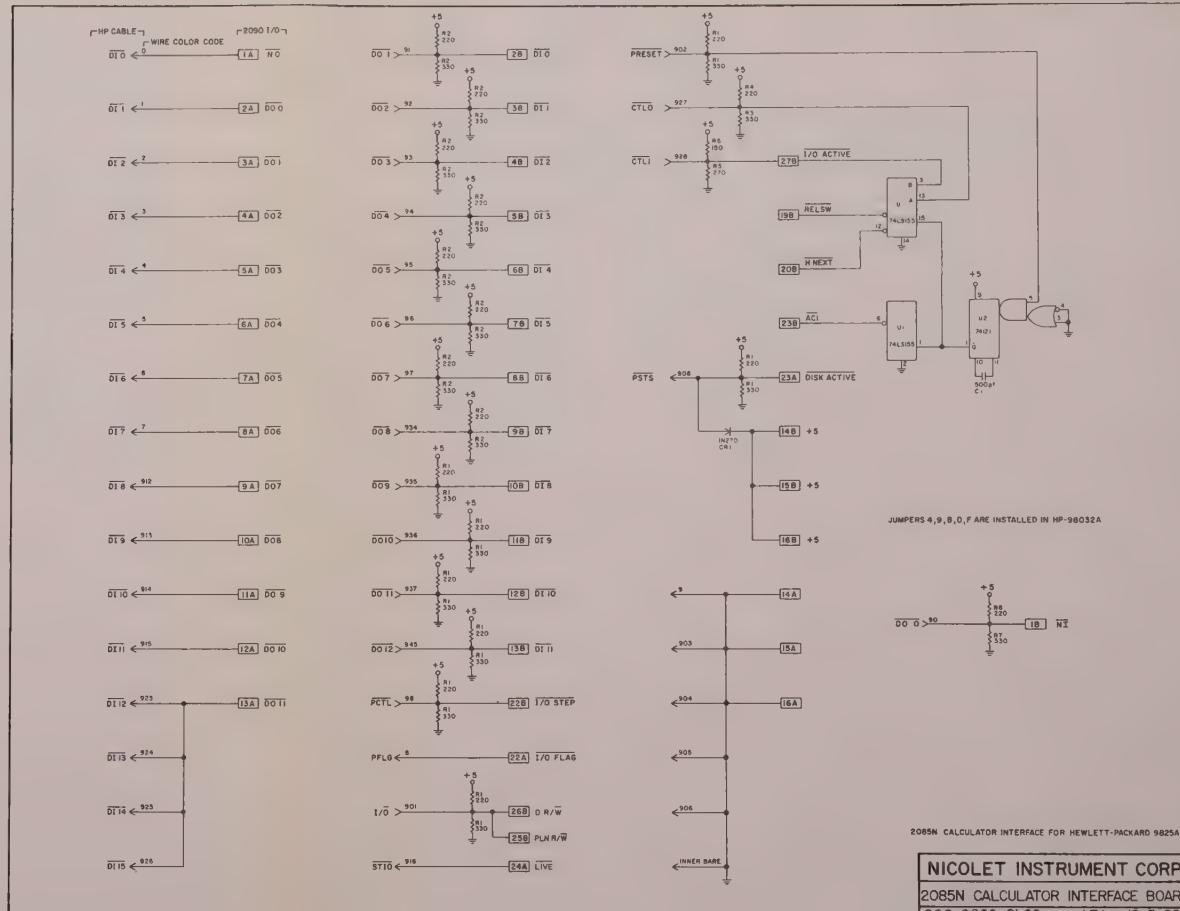
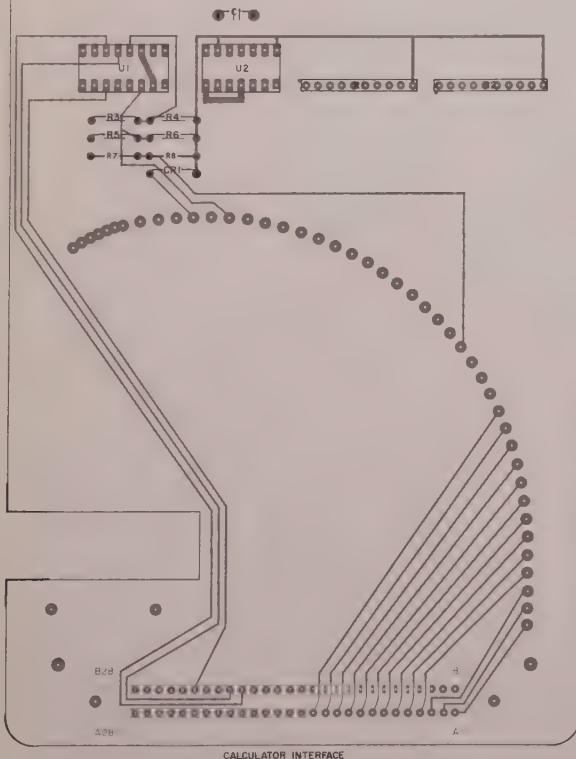


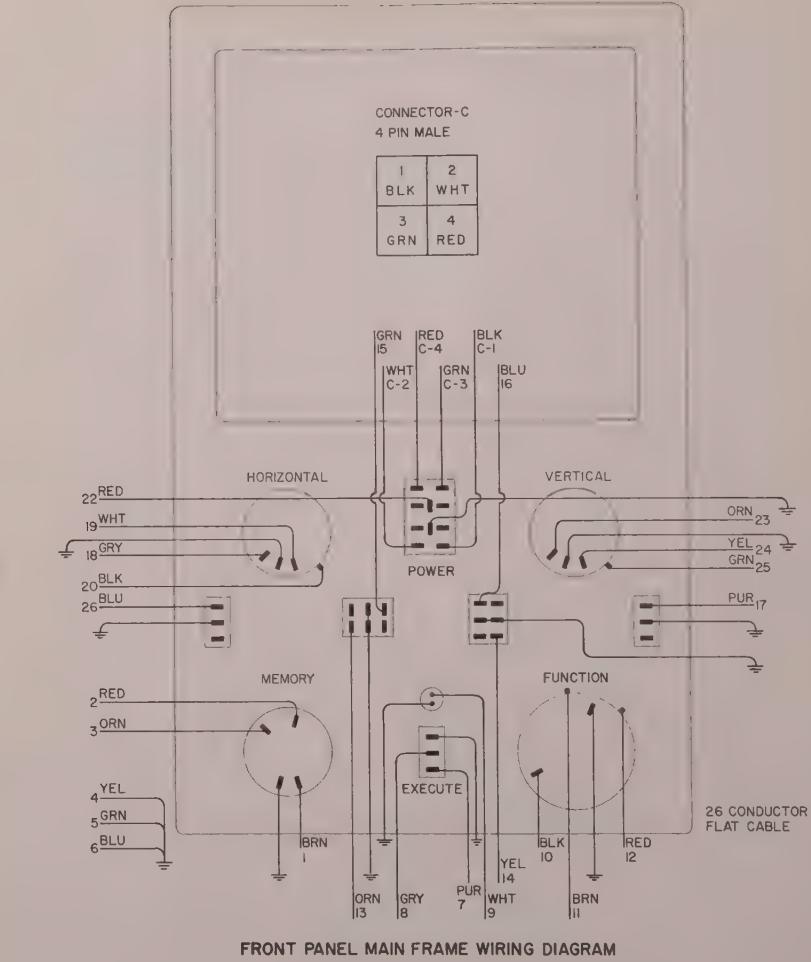
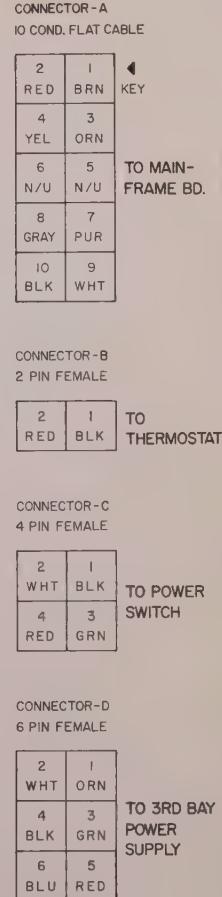
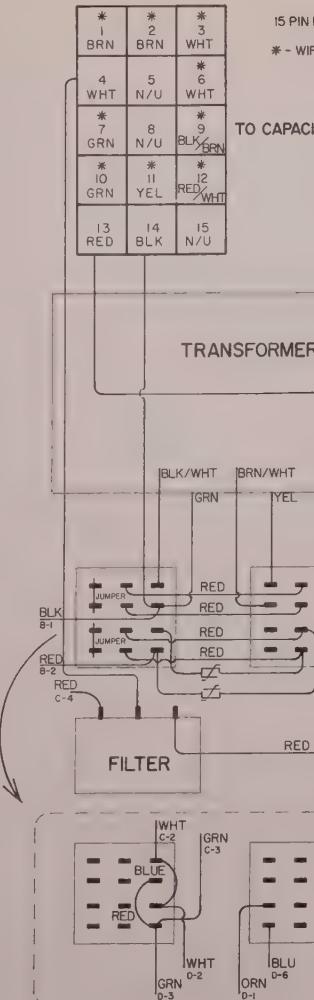
2082 RS-232 BOARD  
CONDUCTOR SIDE

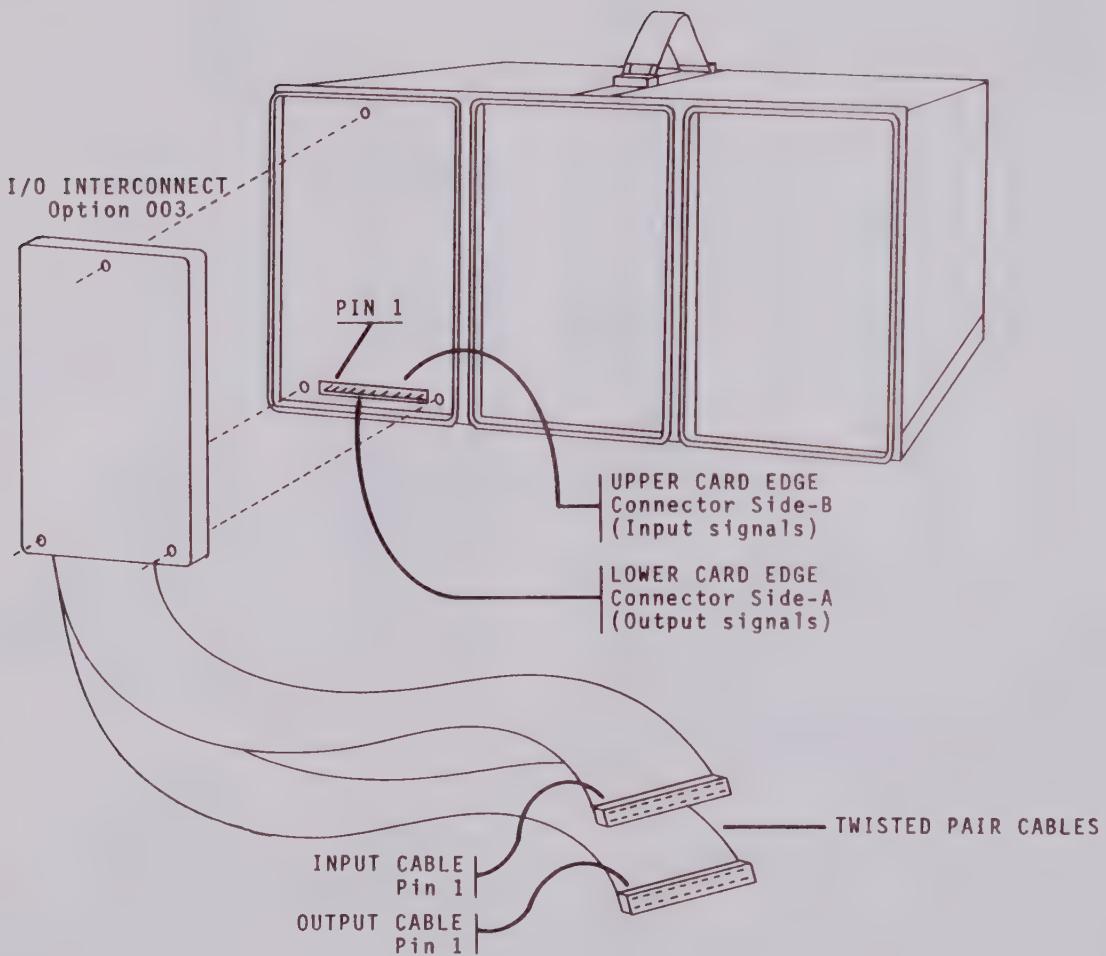


NICOLET INSTRUMENT CORP.  
2082 RS-232 BOARD  
000-9045-02 LEK 12-5-79

2085N  
CALCULATOR INTERFACE  
NICOLET INSTRUMENT CORP  
000-9026-02 7-2-75







I/O INTERCONNECT  
Option 003





## PARTS LIST INDEX

ASSEMBLY	DESCRIPTION
415-011400	206 D3 AMPLIFIER
885-002800	201-2 PLUG-IN
885-002500	204-1 PLUG-IN
885-003500	204-A PLUG-IN
885-001900	206-1 PLUG-IN
885-002000	206-2 PLUG-IN
885-001600	2090-2 EXPLORER II
885-002100	2090-3A / DIGITAL I/O
885-002200	2090-3B / DISK
885-002300	2090-3C / DISK & DIGITAL I/O
885-002700	NIC 2081
885-002900	2082 / RS232C I.O.
845-000900	2085N CAL I/O
845-000800	OPTION 003

The major assemblies listed in the Parts List Index are tabulated in the order they appear on the parts lists.

NOTE: The page numbers repeat for each major assembly. Therefore, locate the major assembly description (see below) and scan the listings until the appropriate list is located.

<u>ASSEMBLY</u>	<u>LEVEL</u>	<u>COMPONENT</u>	<u>DESCRIPTION</u>	<u>U/M</u>	<u>QTY</u>
885-002800			201-2 PLUG-IN		
MAJOR ASSEMBLY DESCRIPTION	2.....	108-022300	RES 22K 05% 1/4W	EA	3.000
INDENTED LEVEL NUMBERS	1.....	415-009400	201-2 CONTROL BD	EA	1.000
SUBASSEMBLY PART NO. & DESCRIPTION	2.....	000-903802	PCB/CONTROL BD/201	EA	1.000
			DESIGN REVISION LEVEL of the circuit board.		
			PRINTED CIRCUIT BOARD PART NO. Listed on schematic drawings & etched on the circuit boards.		

NOTE: When referencing complete printed circuit board subassemblies, always use both the subassembly part number and the printed circuit board part number.

To locate a circuit board subassembly:

1. Determine which major assembly the subassembly is a part of.  
(i.e., The Model 201-2 Plug-In Control Board subassembly is a part of the Model 201-2 Plug-In.)
2. Locate the major assembly parts listing as previously explained.
3. Scan the indented level numbers within that major assembly parts listing to locate the desired subassembly.

NOTE: The part numbers etched on the printed circuit boards are not the subassembly numbers for that completed assembly.

PARENT ITEM NO.  
415-004000

DESCRIPTION 206 MEMORY BD (4K)  
ENGR DRAW

BATCH QTY

RELATIVE LEVEL	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY PER	ITEM U# TYP
•1	000-909000	PCB/206 MEMORY (4K)	X	1.000	EA 4
•1	023-711100	CAP 4.7MF 10V 10% TANT G KEM		5.000	EA 4
•1	023-722300	CAP 0.047MF 50V CERM G CLB		12.000	EA 4
•1	024-715900	CON 16F DIP/SOL 641262-3 AMP		1.000	EA 4
•1	134-717903	IC/74LS86N 2-XOR		1.000	EA 4
•1	134-719503	IC/18S030 PROM (74S288)		1.000	EA 4
•1	134-723903	IC/74LS257 MULTIPLEXER		10.000	EA 4
•1	134-724903	IC/74S169 COUNTER		3.000	EA 4
•1	134-755000	IC/2114 1K X 4 RAM 450NS NAT		12.000	EA 4

(

(

PARENT ITEM NO.  
415-011400

DESCRIPTION 206 DITI AMP BD  
ENGR DRAW

PAGE 0

RELATIVE LEVEL	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY PER	UM TYPE
•1	000-9-07201	PCB/206 DITI AMP	X	1.000	EA 4
•1	023-029200	CAP 22MF 15V 10% TANT G KEM		1.000	EA 4
•1	023-700100	CAP 100PF 500V 0.5% MICA R ARC		2.000	EA 4
•1	023-700200	CAP 1000PF 100V 0.5% MICA R ARC		1.000	EA 4
•1	023-700300	CAP 500PF 500V 0.5% MICA R ARC		1.000	EA 4
•1	023-701600	CAP 2.2nF 20V 10% TANT G KEM		2.000	EA 4
•1	023-702400	CAP .01MF 100V 20% CERM R SPG		2.000	EA 4
•1	023-709100	CAP 20PF 500V 0.5% MICA R ARC		2.000	EA 4
•1	023-710200	CAP 5.5 TO 18PF 50V CERM SMT		2.000	EA 4
•1	023-710600	CAP 10PF 1000V 10% CERM R CLB		2.000	EA 4
•1	023-711200	CAP 220MF 10V 10% TANT G KEM		1.000	EA 4
•1	023-711300	CAP .1MF 250V 10% PLYE R SEC		2.000	EA 4
•1	023-715100	CAP .05MF 50V CERM R ARC		5.000	EA 4
•1	023-717900	CAP 8PF 300V 6.2% MICA R ARC		1.000	EA 4
•1	024-712500	CON/20F EDG/SOL CIN 2521030160		1.000	EA 4
•1	024-7143100	CON/8F DIP/SOL AMP 641260-3		1.000	EA 4
•1	025-734800	SW/SL 2P2T CK 1101M2AB		2.000	EA 4
•1	025-735600	SW/PB 3L2PL SH		1.000	EA 4
•1	025-735800	SW/PB 3L4PL SH		1.000	EA 4
•1	026-705300	POT 200 PCB +7W 3006P1201 BRS		1.000	EA 4
•1	026-705400	POT 500 PCB +7W 3006P1501 BRS		1.000	EA 4
•1	026-705600	POT 2K PCB +7W 3006P1202 BRS		4.000	EA 4
•1	026-705800	POT 10K PCB +7W 3006P1103 BRS		2.000	EA 4
•1	026-706300	POT 100K PCB +7W 3006P1104 BRS		1.000	EA 4
•1	108-010100	RES 100 05% 1/4W		7.000	EA 4
•1	108-010200	RES 1K 05% 1/4W		1.000	EA 4
•1	108-010300	RES 10K 05% 1/4W		2.000	EA 4
•1	108-010400	RES 100K 05% 1/4W		2.000	EA 4
•1	108-020200	RES 2K 05% 1/4W		1.000	EA 4
•1	108-022200	RES 2.2K 05% 1/4W		1.000	EA 4
•1	108-033100	RES 330 05% 1/4W		2.000	EA 4
•1	108-033200	RES 3.3K 05% 1/4W		2.000	EA 4
•1	108-047200	RES 4.7K 05% 1/4W		2.000	EA 4
•1	134-730603	IC/CA3140E		6.000	EA 4
•1	134-743000	IC/3508J OPAMP BURR BROWN		1.000	EA 4
•1	201-100300	RES 100K 01% 1/8W	PRES	2.000	EA 4
•1	201-133200	RES 13.3K 01% 1/8W	PRES	1.000	EA 4
•1	201-215100	RES 2.15K 01% 1/3W	PRES	1.000	EA 4
•1	201-247100	RES 2.49K 01% 1/8W	PRES	1.000	EA 4
•1	201-280200	RES 28K 01% 1/8W	PRES	1.000	EA 4
•1	201-422200	RES 40.2K 01% 1/8W	PRES	1.000	EA 4
•1	201-492100	RES 4.9K 01% 1/8W	PRES	3.000	EA 4
•1	201-698100	RES 6.93K 01% 1/3W	PRES	1.000	EA 4
•1	201-909300	RES 90.9K 01% 1/8W	PRES	2.000	EA 4
•1	214-010300	RES 10K 01% 1/6W	PRES	6.000	EA 4



ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
885-002800		201-2 PLUG-IN				4
	1.....	415-006000	206 STORAGE CONTROL BD		EA	1,000
	2.....	000-900806	PCB/206 STORAGE CONTROL		EA	1,000
	2.....	025-726900	SM/PB/GREEN LED		EA	1,000
	2.....	025-733800	SM/PB 1F2TM SH SRVL/RED		EA	2,000
	2.....	035-701800	BUTT/RECT SH SRVL/BLK W/RED		EA	2,000
	2.....	085-708700	CBL/20 COND/AP 922531-20-99-3		EA	1,000
	2.....	108-022100	RES 220 05% 1/4W		EA	3,000
	2.....	108-022200	RES 2.2K 05% 1/4W		EA	3,000
	2.....	108-022300	RES 22K 05% 1/4W		EA	3,000
	1.....	415-009400	201-2 CONTROL BD		EA	1,000
	2.....	000-903802	PCB/CONTROL BD/201		EA	1,000
	2.....	022-711600	DIO TRFR 1N4376 10V .05A 6 FCH		EA	1,000
	2.....	023-029200	CAP 22MF 15V 10% TANT 6 KEM		EA	1,000
	2.....	023-700200	CAP 1000PF 300V 5% MICA R ARC		EA	1,000
	2.....	023-700300	CAP 500PF 500V 5% MICA R ARC		EA	2,000
	2.....	023-702400	CAP .04MF 100V 20% CERM R SPG		EA	3,000
	2.....	023-709200	CAP 20PF 500V 5% MICA R ARC		EA	2,000
	2.....	023-711100	CAP 4.7MF 10V 10% TANT 6 KEM		EA	1,000
	2.....	023-715100	CAP .05MF 50V CERM R ARC		EA	3,000
	2.....	024-715900	CONN/16 DIP/SOL AMP 640358-3		EA	3,000
	2.....	024-734000	CONN/TIC SOC/20 FIN		EA	2,000
	2.....	025-727000	SW/ROT/32 POS.		EA	1,000
	2.....	100-700700	RES NET/CSP10E-01-502J		EA	2,000
	2.....	108-010000	RES 10 05% 1/4W		EA	3,000
	2.....	108-033100	RES 330 05% 1/4W		EA	2,000
	2.....	108-047100	RES 470 05% 1/4W		EA	1,000
	2.....	134-701803	IC/7400N 2-NAND		EA	1,000
	2.....	134-711203	IC/74S74N FLIP-FLOP		EA	2,000
	2.....	134-712803	IC/74LS00N 2-NAND		EA	10,000
	2.....	134-712903	IC/74LS04N HEX INVERTER		EA	1,000
	2.....	134-713003	IC/74LS20N 4-NAND		EA	1,000
	2.....	134-713203	IC/74LS74N FLIP-FLOP		EA	24,000
	2.....	134-713703	IC/74LS253N MULTIPLEXER		EA	1,000
	2.....	134-713900	IC/MK5009P MOS LSI		EA	1,000
	2.....	134-715503	IC/74LS153N MULTIPLEXER		EA	2,000
	2.....	134-716203	IC/74S175N REGISTER		EA	1,000
	2.....	134-719103	IC/74196N COUNTER		EA	1,000
	2.....	134-719403	IC/74LS151N MULTIPLEXER		EA	3,000
	2.....	134-720803	IC/74LS151N MULTIPLEXER		EA	2,000
	2.....	134-722303	IC/74LS298N REGISTER		EA	3,000
	2.....	134-722703	IC/74LS08N 2-AND		EA	3,000
	2.....	134-723903	IC/74LS257 MULTIPLEXER		EA	3,000
	2.....	134-728803	IC/74S472 FROM		EA	2,000
	2.....	134-730903	IC/74LS367N HEX DRIVER		EA	1,000
	2.....	134-731603	IC/74LS251N MULTIPLEXER		EA	1,000
	2.....	191-704600	CRYSHC18/U 40 MHZ .005		EA	1,000
	2.....	415-009250	204-2 MOTHER BD		EA	1,000
	1.....	000-903902	PCB/201 MOTHER		EA	1,000

ASSEMBLY 885--002800 LEVEL

## COMPONENT

ENG DWG VENDOR U/M QTY

204-2 PLUG-IN

DESCRIPTION	COMPONENT	LEVEL	ASSEMBLY
024-706200	TRN FET/JN E239 40V 6.35W B SLX	EA	2,000
022-703800	DIO ZENR 4IN534 6.2V .5W G NOT	EA	1,000
022-709400	DIO TERR 4IN4150 50V .2A 6 TXI	EA	2,000
023-700200	CAP 1000PF 300V 5% MICA R ARC	EA	1,000
023-700300	CAP 500PF 500V 5% MICA R ARC	EA	1,000
023-702400	CAP .01MF 100V 20% CERM R SF6	EA	1,000
023-706900	CAP 50MF 50V ALUM G SPG	EA	1,000
023-708000	CAP 3.3PF 1000V 45% CERM R CLB	EA	2,000
023-713500	CAP 4.7MF 50V 10% TANT G KEM	EA	4,000
023-745100	CAP .05MF 50V CERM R ARC	EA	4,000
024-745200	CON/14P DIP/SOL AMP 640358--3	EA	6,000
024-733200	CON/6M HDR/SOL AMP 9-350259-2	EA	1,000
024-737200	CONN/56PIN/AMP 67907-3	EA	3,000
026-705600	POT/2K PCB DAL 784-20-202	EA	2,000
026-705700	POT/5K PCB DAL 784-20-502	EA	2,000
108-010100	RES 400 05% 1/4W	EA	1,000
108-010300	RES 10K 05% 1/4W	EA	1,000
108-010400	RES 100K 05% 1/4W	EA	1,000
108-010500	RES 1M 05% 1/4W	EA	1,000
108-012300	RES 12K 05% 1/4W	EA	2,000
108-015300	RES 15K 05% 1/4W	EA	2,000
108-016300	RES 18K 05% 1/4W	EA	2,000
108-022000	RES 22 05% 1/4W	EA	4,000
108-022100	RES 220 05% 1/4W	EA	1,000
108-022300	RES 22K 05% 1/4W	EA	1,000
108-027400	RES 270 05% 1/4W	EA	1,000
108-033400	RES 330 05% 1/4W	EA	2,000
108-033200	RES 3.3K 05% 1/4W	EA	2,000
108-047100	RES 470 05% 1/4W	EA	1,000
108-047300	RES 47K 05% 1/4W	EA	2,000
108-068100	RES 680 05% 1/4W	EA	1,000
108-082200	RES 8.2K 05% 1/4W	EA	2,000
121-702700	REG 5 TO 30V .5A 79MGUIC E FCH	EA	4,000
121-702800	REG -2.2-30V .5A 79MGUIC E FCH	EA	4,000
134-714900	IC/LH318H QPAFP	EA	2,000
134-742703	IC/TCL829CN3	EA	1,000
134-742803	IC/74LS00N 2-NAND	EA	2,000
134-743203	IC/74LS74N FLIP-FLOP	EA	2,000
134-748803	IC/74LS175N REGISTER	EA	3,000
134-722703	IC/74LS08N 2-NAND	EA	1,000
134-723903	IC/74LS257 MULTIPLEXER	EA	4,000
134-730903	IC/74LS367N HEX DRIVER	EA	2,000
201-100100	RES 4K 04% 1/8W	PRES	
201-143200	RES 14.3K 04% 1/8W	PRES	
201-200200	RES 20K 04% 1/8W	PRES	
201-221400	RES 2.21K 04% 1/8W	PRES	
201-274100	RES 2.74K 04% 1/8W	PRES	
201-316100	RES 3.16K 04% 1/8W	PRES	

885-002800

## ASSEMBLY

## COMPONENT

## LEVEL

204-2 PLUG-IN

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG	DWG	VENDOR	U/M	QTY
2.....	2.....	204-374100	RES 3.74K 01% 1/8W	FRES				2.000
2.....	1	201-499100	RES 4.99K 01% 1/8W	PRES				2.000
2.....	415-009600	201-2 ADC ED						2.000
2.....	000-904004	FCB/201 ADC	X					2.000
2.....	022-703400	DIO ZENR 4N5227	3.6V 5W 6 MOT					96.000
2.....	022-714600	DIO TR2 FNA376	10V 0.5A G FCH					8.000
2.....	022-714100	DIO SCHT HSCH1001	60V15MAG HFC					4.000
2.....	023-029200	CAP 22MF 15V 10%	TANT 6 KEM					4.000
2.....	023-700100	CAP 100PF 500V 5%	MICA R ARC					4.000
2.....	023-700200	CAP 1000PF 300V 5%	MICA R ARC					8.000
2.....	023-704700	CAP 1MF 35V 10%	TANT 6 KEM					2.000
2.....	023-706700	CAP 390FF 500V 5%	MICA R ARC					2.000
2.....	023-711100	CAP 4.7MF 10V 10%	TANT 6 KEM					4.000
2.....	023-713500	CAP 4.7MF 50V 10%	TANT 6 KEM					4.000
2.....	023-715100	CAP 4.7MF 50V	CERM R ARC					4.000
2.....	023-718800	CAP 4.7PF 500V	CERM G ERI					2.000
2.....	023-724800	CAP 3PF 500V	CERM G ERI					2.000
2.....	024-715900	COND/16F DIP/SOL	AMP 640358-3					12.000
2.....	024-743100	CONN/8F DIP/SOL	AMP 640463-3					22.000
2.....	025-732000	SW/4STA/PB/2KG-C03100312						
2.....	025-732100	SW/3STA/PB/2KGCO21000311						
2.....	026-705300	POT/200 PCB DAL	784-20-204					
2.....	026-705400	POT/500 PCB DAL	784-20-504					
2.....	026-705500	POT/1K PCB DAL	784-20-102					
2.....	026-705600	POT/2K PCB DAL	784-20-202					
2.....	026-705800	POT/10K PCB DAL	784-20-103					10.000
2.....	026-706200	POT/50K PCB DAL	784-20-503					12.000
2.....	026-706600	POT/100 PCB DAL	784-20-104					12.000
2.....	026-711100	POT/83CID-E20-J10/1K4						2.000
2.....	026-711400	POT/ET14P-500R MEPICO						4.000
2.....	035-701300	BUTT/FUSH CL J52305-04500						14.000
2.....	108-010200	RES 1K 05%	1/4W					1.2.000
2.....	108-010300	RES 10K 05%	1/4W					8.000
2.....	108-010400	RES 100K 05%	1/4W					2.000
2.....	108-015400	RES 150K 05%	1/4W					2.000
2.....	108-022200	RES 2.2K 05%	1/4W					4.000
2.....	108-022300	RES 22K 05%	1/4W					6.000
2.....	108-022400	RES 220K 05%	1/4W					4.000
2.....	108-027200	RES 2.7K 05%	1/4W					8.000
2.....	108-033300	RES 33K 05%	1/4W					4.000
2.....	108-056000	RES 56 05%	1/4W					2.000
2.....	134-710203	IC/74LS83N ADDER						6.000
2.....	134-712803	IC/74LS00N 2-NAND						4.000
2.....	134-718803	IC/74LS175N REGISTER						12.000
2.....	134-722303	IC/74LS298N REGISTER						6.000
2.....	134-722703	IC/74LS08N 2-AND						16.000
2.....	134-730600	IC/CA3140S OPAMP BURR BROWN						2.000
2.....	134-743000	IC/350BJ OPAMP BURR BROWN						

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## INDENTED PARTS LIST

ASSEMBLY 685-002800 LEVEL 14-2 PLUG-IN QTY 1

COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
IC/AD 545L OP AMP ANALOG	DEV.			4,000
RES 1K	0.1% 1/8W	PRES	EA	4,000
RES 4K	0.1% 1/8W	PRES	EA	12,000
RES 40K	0.1% 1/8W	PRES	EA	10,000
RES 100K	0.1% 1/8W	PRES	EA	2,000
RES 10.5K	0.1% 1/8W	PRES	EA	10,000
RES 12K	0.1% 1/8W	PRES	EA	14,000
RES 150	0.1% 1/8W	PRES	EA	14,000
RES 16.5K	0.1% 1/8W	PRES	EA	2,000
RES 17.5	0.1% 1/8W	PRES	EA	10,000
RES 2K	0.1% 1/8W	PRES	EA	4,000
RES 20K	0.1% 1/8W	PRES	EA	2,000
RES 21K	0.1% 1/8W	PRES	EA	2,000
RES 2.49K	0.1% 1/8W	PRES	EA	4,000
RES 24.9K	0.1% 1/8W	PRES	EA	20,000
RES 3.32K	0.1% 1/8W	PRES	EA	2,000
RES 3.74K	0.1% 1/8W	PRES	EA	4,000
RES 37.4K	0.1% 1/8W	PRES	EA	2,000
RES 40.2K	0.1% 1/8W	PRES	EA	4,000
RES 4.42K	0.1% 1/8W	PRES	EA	6,000
RES 48.7K	0.1% 1/8W	PRES	EA	2,000
RES 49.9	0.1% 1/8W	PRES	EA	2,000
RES 4.99K	0.1% 1/8W	PRES	EA	2,000
RES 4.992K	0.1% 1/8W	PRES	EA	28,000
RES 5.23K	0.1% 1/8W	PRES	EA	4,000
RES 6.19K	0.1% 1/8W	PRES	EA	10,000
RES 649	0.1% 1/8W	PRES	EA	2,000
RES 750	0.1% 1/8W	PRES	EA	2,000
RES 7.5K	0.1% 1/8W	PRES	EA	2,000
RES 9.09K	0.1% 1/8W	PRES	EA	12,000
RES 42.7K	.1% 1.8W	PRES	EA	14,000
CON/IF CAL/SOL OPH F-UL S570			CA	1,000
SW/C * K #853J			CA	1,000
SW/CTS#T202/2 POLE/2-5ST4			CA	3,000
BKLY/ROTHER ED/EXPL			EA	1,000
D10 LED 400 L 30 V0.10A M 4NM			EA	1,000
022-744560			EA	1,000
024-058990			EA	1,000
025-718000			EA	1,000
025-727600			EA	1,000
045-721607			EA	9,000
022-727900	SW/GF-426-PC-620-18		EA	1,000
026-710000	FOT/400K/C.L. EA147-0134		EA	1,000
045-703200	KNOB/KPN-500BA/40		EA	3,000
045-703500	KNOB/KPN-900BA-1/4"		EA	1,000
045-703600	KNOB/KN-500BA-1/8"		EA	3,000
068-736903	PAN/201-2 FRONT		X	
068-741200	PAN/201-2 SUB		X	
085-900100	CBL/20 COND/PLUG-IN FRONT		EA	
093-702400	FASTNR/SCR 6-32 X 1/4" BLK		EA	4,000
475-003300	201-2 MECH ASSY		EA	1,000
020-701808	CHAS/PLUG-IN		EA	1,000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
885-002800		204-2 PLUG-IN				1
	2.....	034-713300	GUIDE/SCANBE #11633-4		EA	2,000
	2.....	042-711001	COVER/206 AMP DIVIDER	X	EA	1,000
	2.....	085-705400	PROBE/COLINE 900-90-505		EA	2,000

5/15/79

885-002500

ASSEMBLY LEVEL

ENG DWG VENDOR U/M

QTY

## 204-1 PLUG IN

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR	U/M	QTY
885-002500	1 . . . . .	415-007800	204 ADC BD	EA	1.000		1.
	2 . . . . .	000-903001	PCB/204 ADC	EA	1.000		
	2 . . . . .	024-702200	TRANSIS/2N3903	EA	6.000		
	2 . . . . .	024-703200	TRANSIS/2N5047	EA	4.000		
	2 . . . . .	024-704700	TRANSIS/2N5224/NPN/42V/.6MW	EA	8.000		
	2 . . . . .	024-71179	TRANS/2N5179	EA	8.000		
	2 . . . . .	024-710200	TRANS/A400	EA	7.000		
	2 . . . . .	024-710300	TRANS/SD-203DC	EA	5.000		
	2 . . . . .	024-710400	TRANS/A-406	EA	2.000		
	2 . . . . .	024-710700	TRANS/A-440	EA	1.000		
	2 . . . . .	024-710800	DIODE/1N5236/ZENER/.7.5V	EA	2.000		
	2 . . . . .	022-708000	DIODE/REGULATOR 78GLIC	EA	2.000		
	2 . . . . .	022-711500	DIODE/1N4376/.75 NS TRR/20V	EA	1.1.000		
	2 . . . . .	022-711600	DIODE/FDHS-300	EA	1.000		
	2 . . . . .	022-713000	DIODE/FDHS-1001/SCHOTTKY	EA	31.000		
	2 . . . . .	022-714100	DIODE/HSCH 1004	EA	1.000		
	2 . . . . .	022-715500	CAP/22MF 40% 15V TANT AXL	EA	2.000		
	2 . . . . .	023-029200	CAP/100FF 5% 500V MICA RAD	EA	2.000		
	2 . . . . .	023-700100	CAP/250FF 5% 500V MICA RAD	EA	1.000		
	2 . . . . .	023-700500	CAP/.01MF 20% 100V CERM RAD	EA	6.000		
	2 . . . . .	023-702400	CAP/3.3MF 15% 1000V CERM RAD	EA	1.000		
	2 . . . . .	023-708000	CAP/33MF 5% 5000 MICA RAD	EA	1.000		
	2 . . . . .	023-708800	CAP/5.5-18FF 50V CERM RAD	EA	2.000		
	2 . . . . .	023-710200	CAP/10FF 10% 1000V CERM RAD	EA	2.000		
	2 . . . . .	023-710600	CAP/.1MF 10% 2000 PLYE AXL	EA	2.000		
	2 . . . . .	023-710800	CAP/220MF 10% 10V TANT AXL	EA	3.000		
	2 . . . . .	023-711200	CAP/1MF 50V CERM RAD	EA	2.000		
	2 . . . . .	023-713400	CAP/1.5FFD-.25FFD	EA	5.000		
	2 . . . . .	023-715500	CAP/2.0 FF ERTE 5000UDC	EA	1.000		
	2 . . . . .	023-716500	CAP/8FFD 300U	EA	2.000		
	2 . . . . .	023-717900	CAP/4.7FFD	EA	4.000		
	2 . . . . .	023-722600	CAP/.1MF DIP @ 250V 5%	EA	15.000		
	2 . . . . .	024-715900	CONN/16F DIP/SOL AMP 640358-3	EA	13.000		
	2 . . . . .	024-739300	CONN/MOLEX 22-42-2101	EA	1.000		
	2 . . . . .	025-731000	SW/105SF/REL-18-3	EA	1.000		
	2 . . . . .	026-705500	POT/1K PCB DAL 784-20-102	EA	1.000		
	2 . . . . .	026-711100	POT/B34D-E20-J10/1K4	EA	1.000		
	2 . . . . .	026-711300	POT/ET14F-100R MEFCO	EA	5.000		
	2 . . . . .	026-711400	POT/ET14F-500R MEFCO	EA	3.000		
	2 . . . . .	026-714500	POT/ET14F-1K MEFCO	EA	4.000		
	2 . . . . .	026-714600	POT/ET14F-2K MEFCO	EA	1.000		
	2 . . . . .	026-711700	POT/ET14F-5K MEFCO	EA	1.000		
	2 . . . . .	026-711800	POT/ET14F-50K MEFCO	EA	1.000		
	2 . . . . .	026-711900	POT/ET14F-1MEG MEFCO	EA	2.000		
	2 . . . . .	100-701900	RES NET/CSP10E-01-500J	EA	7.000		
	2 . . . . .	108-040100	RES/1000HM/1.4W/5%	EA	3.000		
	2 . . . . .	108-040200	RES/1K/1.4W/5%	EA	6.000		
	2 . . . . .	108-040300	RES/10K/1.4W/5%	EA	2.000		

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
885-002500		204-4 PLUG IN				1.

2.....	108-012100	RES/1200HM/1/4W/5%	EA	EA	3,000
2.....	108-012200	RES/1.2K/1/4W/5%	EA	EA	1,000
2.....	108-015100	RES/1500HM/1/4W/5%	EA	EA	2,000
2.....	108-015500	RES/1.5M/1/4W/5%	EA	EA	1,000
2.....	108-018100	RES/1800HM/1/4W/5%	EA	EA	1,000
2.....	108-018200	RES/1.8K/1/4W/5%	EA	EA	1,000
2.....	108-022100	RES/2200HM/1/4W/5%	EA	EA	1,000
2.....	108-022200	RES/2.2K/1/4W/5%	EA	EA	2,000
2.....	108-022500	RES/2.2MEG/1/4W/5%	EA	EA	1,000
2.....	108-027100	RES/2700HM/1/4W/5%	EA	EA	6,000
2.....	108-027200	RES/2.7K/1/4W/5%	EA	EA	1,000
2.....	108-033000	RES/330HM/1/4W/5%	EA	EA	7,000
2.....	108-033200	RES/3.3K/1/4W/5%	EA	EA	1,000
2.....	108-039000	RES/390HM/1/4W/5%	EA	EA	1,000
2.....	108-039200	RES/3.9K/1/4W/5%	EA	EA	2,000
2.....	108-047000	RES/470HM/1/4W/5%	EA	EA	6,000
2.....	108-047100	RES/4700HM/1/4W/5%	EA	EA	3,000
2.....	108-047200	RES/4.7K/1/4W/5%	EA	EA	3,000
2.....	108-056100	RES/5600HM/1/4W/5%	EA	EA	1,000
2.....	108-068000	RES/680HM/1/4W/5%	EA	EA	4,000
2.....	108-068100	RES/6800HM/1/4W/5%	EA	EA	5,000
2.....	108-082000	RES/820HM/1/4W/5%	EA	EA	1,000
2.....	108-082100	RES/820 OHM 1/4W 5%	EA	EA	1,000
2.....	134-737900	IC/F10150FC ECL FLIP-FLOP	EA	EA	4,000
2.....	134-738000	IC/F95L23DC	EA	EA	6,000
2.....	134-738100	IC/F95102DC	EA	EA	1,000
2.....	134-738200	IC/F10176DC ECL FLIP-FLOP	EA	EA	2,000
2.....	134-738300	IC/F95107DC	EA	EA	2,000
2.....	134-738400	IC/F10125PC ECL TRANSLATOR	EA	EA	2,000
2.....	201-100100	PRES / 1/8W 1K	EA	EA	1,000
2.....	201-100400	PRES 1/8W/1. MEG 1/8W	EA	EA	1,000
2.....	201-105100	PRES 1/8W/1.05K I.R.C.	EA	EA	4,000
2.....	201-124200	PRES 1/8W/1.2.4K	EA	EA	1,000
2.....	201-130100	PRES 1/8W/1.3K MF5C T-0	EA	EA	1,000
2.....	201-143200	PRES 1/8W/14.3K	EA	EA	2,000
2.....	201-162400	PRES/P 1.62M	EA	EA	2,000
2.....	201-169200	PRES 1/8W/16.9K I.R.C.	EA	EA	14,000
2.....	201-178000	PRES 1/8W/178 OHM	EA	EA	3,000
2.....	201-178100	PRES 1/8W/1.78K I.R.C.	EA	EA	1,000
2.....	201-178300	PRES 1/8W/178K	EA	EA	1,000
2.....	201-200100	PRES 1/8W/2K IRC	EA	EA	1,000
2.....	201-249200	PRES 1/8W/24.9K	EA	EA	1,000
2.....	201-332100	PRES 1/8W/3.32K I.R.C.	EA	EA	1,000
2.....	201-365000	PRES / 1/8W 365 OHM 1%	EA	EA	1,000
2.....	201-374100	PRES 1/8W/3.74K	EA	EA	3,000
2.....	201-412100	PRES 1/8W/4.12K	EA	EA	1,000
2.....	201-499100	PRES 1/8W/4.99K	EA	EA	3,000
2.....	201-499900	PRES 1/8W/49.9 OHM	EA	EA	4,000

## INDENTED PARTS LIST

PAGE 3

5/15/79

PC14

ASSEMBLY 885-002500 LEVEL

COMPONENT

DESCRIPTION

QTY

ENG DWG

VENDOR U/M

PAGE

204-1 PLUG IN

		COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	PAGE
2.....	204-576100	PRES/ 1/8W /5.76K 1%	EA	1.000		1.
2.....	204-681000	PRES 1/8W/I.R.C. 6.84K	EA	4.000		
2.....	204-681900	PRES 1/8W/68.4 OHMS CEA-	EA	4.000		
2.....	204-715000	PRES/ 1/8W /715 OHM	EA	2.000		
2.....	204-750000	RES/1/8W/1% /7500HM	EA	2.000		
2.....	204-806100	PRES/ 1/8W 8.06K 1%	EA	1.000		
2.....	204-825000	PRES 1/8W/825 OHM I.R.C.	EA	5.000		
2.....	204-825100	PRES 1/8W/8.25K	EA	3.000		
2.....	415-008000	STORAGE CNTRL BRD/204	EA	1.000		
2.....	000-903201	P.C.B./STOR CONT/204	EA	1.000		
2.....	024-739800	CONN/MOLEX 22-10-2031	EA	3.000		
2.....	025-721600	SW/PB 4F2TM SH SRL/BLK/RED	EA	2.000		
2.....	025-726900	SW/PB/GREEN LED	EA	1.000		
2.....	108-015300	RES/15K/1/4W/5%	EA	3.000		
2.....	108-022100	RES/2200HM/1/4W/5%	EA	3.000		
2.....	415-008100	204 MEMORY BD	EA	1.000		
1.....	000-902902	P.C.B./MEM BD/204	EA	1.000		
2.....	015-706300	FIN/350663-6 AMP SP00L	EA	3.000		
2.....	021-708800	TRANSIS/2N5301	EA	1.000		
2.....	022-700800	DIODE/1N4004/1 AMP/400V	EA	1.000		
2.....	022-707100	DIODE/3 SM2	EA	2.000		
2.....	022-714000	DIODE/REG/LAS723	EA	1.000		
2.....	023-700200	CAP/1000PF 5% 300V MICA RAD	EA	1.000		
2.....	023-701600	CAP/2.2MF 10% 20V TANT AXL	EA	1.000		
2.....	023-702400	CAP/.01MF 20% 100V CERM RAD	EA	18.000		
2.....	023-711100	CAP/.4.7MF 10% 10U TANT AXL	EA	4.000		
2.....	023-714200	CAP/220MF 10% 10U TANT AXL	EA	1.000		
2.....	023-745100	CAP/.05MF 50U CERM RAD	EA	9.000		
2.....	024-727000	CON/6M REC/CRP AMP 4-350234-9	EA	1.000		
2.....	024-739900	CONN/MOLEX 22-16-2054	EA	1.000		
2.....	032-700800	INSUL/DIODE	EA	1.000		
2.....	034-715500	GUIDE/SCANBE 11633-1	EA	4.000		
2.....	085-708600	CBL/34 COND/AP 922541-34-99-3	EA	2.000		
2.....	098-700400	HT SNK/F.C.B. COOLER	EA	1.000		
2.....	103-010100	RES 1W/100 OHM	EA	1.000		
2.....	108-015200	RES/1.5K/1/4W/5%	EA	2.000		
2.....	108-022300	RES/22K/1/4W/5%	EA	2.000		
2.....	108-033000	RES/330HM/1/4W/5%	EA	1.000		
2.....	134-714203	IC/74S74N FLIP-FLOP	EA	1.000		
2.....	134-723903	IC/74LS257 MULTIPLEXER	EA	4.000		
2.....	134-724900	IC/74S169 COUNTER	EA	3.000		
2.....	134-737400	IC/F2115AL	EA	32.000		
2.....	134-739003	IC/74S374N REGISTER	EA	2.000		
2.....	134-739103	IC/74LS244N OCTAL BUFFER	EA	6.000		
2.....	134-739203	IC/74S32N 2-0R	EA	2.000		
2.....	134-739303	IC/74S139N DEMULTIPLEXER	EA	1.000		
2.....	134-739403	IC/74S157N MULTIPLEXER	EA	2.000		
2.....	201-124100	FRES 1/8W/1.24K MF5C	EA	1.000		

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
885-002500		204-1 PLUG IN				1
	2 .....	201-224100	PRES 1/8W/2.24K		EA	1.000
	2 .....	201-316100	PRES 1/8W/3.16K IRC		EA	1.000
	2 .....	201-825000	PRES 1/8W/825 OHM I.R.C.		EA	1.000
1 .....	415-008200	204 CONTROL ED	PCB/204 CONTROL		EA	1.000
1 .....	000-903303	PCB/204 CONTROL	CHOKE/COIL		EA	2.000
2 .....	019-704500	XFORMER/INDUCT/AGUIRE	XFORMER/INDUCT/AGUIRE		EA	1.000
2 .....	019-708800	TRANSIS/2N3903	TRANSIS/2N3903		EA	1.000
2 .....	024-702200	TRANSIS/2N5978	TRANSIS/2N5978		EA	1.000
2 .....	024-703800	TRANSIS/2N2905A	TRANSIS/2N2905A		EA	1.000
2 .....	024-705100	DIODE/1N4150	DIODE/1N4150		EA	1.000
2 .....	022-7092400	DIODE/FDH-300	DIODE/FDH-300		EA	2.000
2 .....	022-713000	DIODE/REGULATOR/TI S63524J	DIODE/REGULATOR/TI S63524J		EA	1.000
2 .....	022-715800	DIODE/UARO USK 540	DIODE/UARO USK 540		EA	1.000
2 .....	022-715900	DIODE/UARO USK 540	DIODE/UARO USK 540		EA	1.000
2 .....	023-029200	CAP/22MF 10% 15V TANT AXL	CAP/22MF 10% 15V TANT AXL		EA	1.000
2 .....	023-702400	CAP/.01MF 20% 100V CERM RAD	CAP/.01MF 20% 100V CERM RAD		EA	5.000
2 .....	023-706800	CAP/150PF 5% 500V MICA RAD	CAP/150PF 5% 500V MICA RAD		EA	1.000
2 .....	023-711000	CAP/22MF 10% 35V TANT AXL	CAP/22MF 10% 35V TANT AXL		EA	2.000
2 .....	023-711100	CAP/4.7MF 10% 10V TANT AXL	CAP/4.7MF 10% 10V TANT AXL		EA	5.000
2 .....	023-711200	CAP/220MF 10% 10V TANT AXL	CAP/220MF 10% 10V TANT AXL		EA	2.000
2 .....	023-715100	CAP/.05MF 50V CERM RAD	CAP/.05MF 50V CERM RAD		EA	26.000
2 .....	023-716400	CAP/12PFID 300V	CAP/12PFID 300V		EA	1.000
2 .....	023-717000	CAP/3PFID 300V	CAP/3PFID 300V		EA	1.000
2 .....	023-717500	CAP/28KMF 15U ALUM SCW	CAP/28KMF 15U ALUM SCW		EA	1.000
2 .....	023-718200	CAP/27PF 5% 3000 MICA RAD	CAP/27PF 5% 3000 MICA RAD		EA	1.000
2 .....	023-719600	CAP/48PFID 3000V	CAP/48PFID 3000V		EA	2.000
2 .....	023-722600	CAP/.4MFID @ 250V 5%	CAP/.4MFID @ 250V 5%		EA	1.000
2 .....	024-714400	CONN/20F REC/IDP MMM 3421-0000	CONN/20F REC/IDP MMM 3421-0000		EA	2.000
2 .....	024-715500	CONN/3339-6000	CONN/3339-6000		EA	2.000
2 .....	024-715900	CONN/16F DIP/SOL AMP 640358-3	CONN/16F DIP/SOL AMP 640358-3		EA	6.000
2 .....	024-739200	CONN/MOLEX 22-16-2051	CONN/MOLEX 22-16-2051		EA	1.000
2 .....	024-740000	CONN/MOLEX 22-16-2101	CONN/MOLEX 22-16-2101		EA	2.000
2 .....	025-727000	SU/ROT/32 POS.	SU/ROT/32 POS.		EA	1.000
2 .....	034-745500	GUIDE/SCANBE 44633-1	GUIDE/SCANBE 44633-1		EA	4.000
2 .....	040-707900	CLIP/RICHCO 9-1044	CLIP/RICHCO 9-1044		EA	1.000
2 .....	098-705300	HT SNK/6072B	HT SNK/6072B		EA	1.000
2 .....	100-700700	RES NET/CSPI40E-01-502J	RES NET/CSPI40E-01-502J		EA	3.000
2 .....	100-701900	RES/NET/1/4W/5%	RES/NET/1/4W/5%		EA	4.000
2 .....	101-040900	RES/1/2W/5 10%/4 OHM	RES/1/2W/5 10%/4 OHM		EA	1.000
2 .....	105-082400	RES/820HM/2W/5%	RES/820HM/2W/5%		EA	5.000
2 .....	108-010300	RES/10 OHM/4/4W/5%	RES/10 OHM/4/4W/5%		EA	2.000
2 .....	108-010500	RES/1MEG/1/4W/5%	RES/1MEG/1/4W/5%		EA	1.000
2 .....	108-012300	RES/12K/1/4W/5%	RES/12K/1/4W/5%		EA	1.000
2 .....	108-0145300	RES/15K/1/4W/5%	RES/15K/1/4W/5%		EA	1.000
2 .....	108-022100	RES/220OHM/1/4W/5%	RES/220OHM/1/4W/5%		EA	1.000
2 .....	108-022200	RES/2.2K/1/4W/5%	RES/2.2K/1/4W/5%		EA	1.000
2 .....	108-022300	RES/22K/1/4W/5%	RES/22K/1/4W/5%		EA	1.000

ASSEMBLY LEVEL COMPONENT DESCRIPTION

ENG DWG VENDOR U/M QTY

885-002500

204-1 PL05 IN

2 . . . . .	108-027300	PES/27K/1/40L/5%	EA	1,000
2 . . . . .	108-033000	RES/330MH/1.4M/5%	EA	1,000
2 . . . . .	109-047109	RES/470OH/1.4/44/5%	EA	3,000
2 . . . . .	108-082200	RES/8.2K/1/40L/5%	EA	3,000
2 . . . . .	134-741203	IC/74S74N FLIP-FLOP	EA	5,000
2 . . . . .	134-741203	IC/74LS00N 2-NAND	EA	3,000
2 . . . . .	134-743203	IC/74LS74N FLIP-FLOP	EA	2,000
2 . . . . .	134-743703	IC/74LS253N MULTIPLEXER	EA	2,000
2 . . . . .	134-743900	IC/74LS509P MOS LST	EA	1,000
2 . . . . .	134-745503	IC/74LS153N MULTIPLEXER	EA	2,000
2 . . . . .	134-746003	IC/74S86 2-XOR	EA	1,000
2 . . . . .	134-746303	IC/74123N MONOSTABLE	EA	1,000
2 . . . . .	134-748303	IC/74S02N 2-NOR	EA	1,000
2 . . . . .	134-748803	IC/74LS175N REGISTER	EA	1,000
2 . . . . .	134-749403	IC/74LS154N MULTIPLEXER	EA	4,000
2 . . . . .	134-749503	IC/74S23BN PROM	EA	1,000
2 . . . . .	134-720503	JC/74LS174N REGISTER	EA	2,000
2 . . . . .	134-720803	IC/74LS104 3-NAND	EA	1,000
2 . . . . .	134-722703	IC/74LS09N 2-NAND	EA	1,000
2 . . . . .	134-723903	IC/74LS257 MULTIPLEXER	EA	3,000
2 . . . . .	134-724900	IC/74S169 COUNTER	EA	2,000
2 . . . . .	134-730903	IC/74LS367N HEX DRIVER	EA	1,000
2 . . . . .	134-731603	IC/74LS253N MULTIPLEXER	EA	1,000
2 . . . . .	134-7336003	IC/74S293J ADDER	EA	1,000
2 . . . . .	134-738000	IC/F95L230C	EA	2,000
2 . . . . .	134-738400	IC/F95402DC	EA	2,000
2 . . . . .	134-738200	IC/F40176DC ECL FLIP-FLOP	EA	1,000
2 . . . . .	134-738400	IC/F40125PC ECL TRANSLATOR	EA	1,000
2 . . . . .	134-738500	IC/F40040DC ECL DECADE COUNTER	EA	2,000
2 . . . . .	134-738600	IC/F10106DC	EA	2,000
2 . . . . .	134-738700	IC/F10145DC ECL RECEIVER	EA	1,000
2 . . . . .	134-738800	IC/F10134DC ECL FLIP-FLOP	EA	5,000
2 . . . . .	134-738900	IC/F10124PC ECL TRANSLATOR	EA	1,000
2 . . . . .	134-739203	IC/74S32N 2-0R	EA	1,000
2 . . . . .	134-739403	IC/74S457N MULTIPLEXER	EA	1,000
2 . . . . .	191-705600	CRY/4.00 MHZ .0025%	EA	1,000
2 . . . . .	201-127100	PRES 1/8W/1.27K	EA	1,000
2 . . . . .	201-237100	PRES 1/8W/2.37K I.R.C.	EA	3,000
2 . . . . .	201-750100	PRES 1/8W/7.5K	EA	1,000
1 . . . . .	415-008900	204-1 FRONT PANEL BD	EA	1,000
2 . . . . .	000-903103	PCB/204 FRONT PANEL	X	1,000
2 . . . . .	021-703200	TRANS/2N5047	EA	1,000
2 . . . . .	021-704700	TRANS/2N5224/MFN/12V/.6MW	EA	1,000
2 . . . . .	021-708600	TRANS/S2D241	EA	3,000
2 . . . . .	021-710200	TRANS/2N5179	EA	3,000
2 . . . . .	022-703700	DIODE/IN5231/ZENER/5.1V	EA	1,000
2 . . . . .	022-709400	DIODE/IN4150	EA	1,000
2 . . . . .	022-711600	DIODE/IN4376/.75 NS TRR/20V	EA	1,000

ASSEMBLY  
885-002500LEVEL  
COMPONENTDESCRIPTION  
204-1 PLUG IN

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR	U/M	QTY
885-002500	2.....	023-700400	CAP/100PF 5% 500V MICA RAD	EA	3,000		
	2.....	023-700400	CAP/47PF 5% 500V MICA RAD	EA	2,000		
	2.....	023-702400	CAP/.01MF 20% 400V CERM RAD	EA	1,000		
	2.....	023-710600	CAP/10PF 10% 1000V CERM RAD	EA	1,000		
	2.....	023-722600	CAP/.1MF D @ 250V 5%	EA	5,000		
	2.....	024-739400	CONN/MOLEX 22-17-2102	EA	1,000		
	2.....	024-739500	CONN/MOLEX 22-10-2051	EA	3,000		
	2.....	024-739600	CONN/MOLEX 22-10-2101	EA	1,000		
	2.....	024-739700	CONN/MOLEX 09-48-3032	EA	3,000		
	2.....	024-740800	CONN/2 PIN/6010-22-18-2023	EA	1,000		
	2.....	025-730500	SW/CL2K814AC1S45XXXX	EA	1,000		
	2.....	025-730600	SW/CL2K813AC1S45XXXX	EA	7,000		
	2.....	025-730700	SW/CL 2KK9BBB2-XXXX	EA	2,000		
	2.....	025-730800	SW/CL 2KK9CCBZ-XXXXXX	EA	2,000		
	2.....	026-714200	FOT/3862C-366-353A/25K	EA	1,000		
	2.....	035-701300	BUTT/PUSH CL J52305-04500	EA	24,000		
	2.....	100-700700	RES NET/CSF10E-01-502J	EA	1,000		
	2.....	134-701803	IC/7400N 2-NAND	EA	1,000		
	2.....	134-712803	IC/74LS00N 2-NAND	EA	1,000		
	2.....	134-713203	IC/74LS74N FLIP-FLOP	EA	2,000		
	2.....	134-723903	IC/74LS257 MULTIPLEXER	EA	1,000		
4	2.....	475-002400	204-1 MECH ASSY	EA	1,000		
	2.....	022-714500	DIODE/LED 406 GREEN	EA	1,000		
	2.....	024-058900	CON/1F CXL/SOL APH F-U6 657-U	EA	3,000		
	2.....	044-705400	SHIELD/204 PLUG-IN	X	1,000		
	2.....	044-706500	SHIELD/204 SWITCH	X	1,000		
	2.....	045-703500	KNOB/KPN-900BA-1/4"	EA	2,000		
	2.....	045-703600	KNOB/KN-500BA-1/8"	EA	2,000		
	2.....	045-704100	KNOB/KNS-501BA ALCO	EA	1,000		
	2.....	068-733401	PAN/FRONT/204-1	EA	1,000		
	2.....	085-705400	PROBE/COLINE 900-90-505	EA	1,000		

ASSEMBLY  
885-003500LEVEL  
COMPONENT

204A PLUG-IN

DESCRIPTION  
ENG DUG VENDOR U/M QTY

415-010500	204A STORAGE CONTROL BD	PCB/204A STORAGE CONTROL	EA	1,000
000-906801	SW/PB/GREEN LED	SW/PB/GREEN LED	EA	1,000
025-726900	SW/PB/AP2TM S1 SRUL/RED	SW/PB/AP2TM S1 SRUL/RED	EA	2,000
025-733800	SW/T0 APLOT ALTTA100-FC-A	SW/T0 APLOT ALTTA100-FC-A	EA	4,000
025-734600	BUTT/RELAY SCRBL/DLF W/RED	BUTT/RELAY SCRBL/DLF W/RED	EA	2,000
035-704800	RES 1.5K 0% 1/4W	RES 1.5K 0% 1/4W	EA	3,000
108-015300	RES 220 0% 1/4W	RES 220 0% 1/4W	EA	3,000
108-022100	RES 22K 0% 1/4W	RES 22K 0% 1/4W	EA	4,000
108-022300	RES 22K 0% 1/4W	RES 22K 0% 1/4W	EA	4,000
415-010600	204A TRIGGER BD	PCB/204A TRIGGER BD	EA	1,000
000-906904	X	X	EA	1,000
024-704300	TRA FNP 2N3905 40V 35W B MOT	TRA FNP 2N3905 40V 35W B MOT	EA	1,000
024-703200	TRN FET IN 2N5047 50V 2W A MOT	TRN FET IN 2N5047 50V 2W A MOT	EA	1,000
022-743000	DIO RECL FDH300 150V .2A 6 FCH	DIO RECL FDH300 150V .2A 6 FCH	EA	1,000
023-700100	CAP 4.00PF 500V 5% MICA R ARC	CAP 4.00PF 500V 5% MICA R ARC	EA	2,000
023-700400	CAP 4.7PF 500V 5% MICA R ARC	CAP 4.7PF 500V 5% MICA R ARC	EA	2,000
023-702400	CAP 1.0MF 100V 20% CERM R SPG	CAP 1.0MF 100V 20% CERM R SPG	EA	1,000
023-707500	CAP 6.3MF 35V 10% TANT G KEM	CAP 6.3MF 35V 10% TANT G KEM	EA	2,000
023-708800	CAP 3.3PF 500V 5% MICA R ARC	CAP 3.3PF 500V 5% MICA R ARC	EA	1,000
023-709100	CAP 2.0PF 500V 5% MICA R ARC	CAP 2.0PF 500V 5% MICA R ARC	EA	1,000
023-714300	CAP .1MF 250V 10% FLYE R SEC	CAP .1MF 250V 10% FLYE R SEC	EA	10,000
023-718800	CAP 4.7PF 500V CERM G ERT	CAP 4.7PF 500V CERM G ERT	EA	1,000
025-734700	SW/PB/APL21 CL	SW/PB/APL21 CL	EA	1,000
026-713400	POT/5K PCB 2W 84C1D20A BRS	POT/5K PCB 2W 84C1D20A BRS	EA	1,000
108-010200	RES 1K 0% 1/4W	RES 1K 0% 1/4W	EA	1,000
108-010300	RES 10K 0% 1/4W	RES 10K 0% 1/4W	EA	5,000
108-010400	RES 100K 0% 1/4W	RES 100K 0% 1/4W	EA	4,000
108-022100	RES 220 0% 1/4W	RES 220 0% 1/4W	EA	1,000
108-022300	RES 22K 0% 1/4W	RES 22K 0% 1/4W	EA	2,000
100-033100	RES 330 0% 1/4W	RES 330 0% 1/4W	EA	1,000
108-033200	RES 3.3K 0% 1/4W	RES 3.3K 0% 1/4W	EA	1,000
108-033400	RES 330K 0% 1/4W	RES 330K 0% 1/4W	EA	2,000
108-047000	RES 47 0% 1/4W	RES 47 0% 1/4W	EA	1,000
108-068000	RES 6.3 0% 1/4W	RES 6.3 0% 1/4W	EA	1,000
108-068400	RES 680K 0% 1/4W	RES 680K 0% 1/4W	EA	1,000
121-702600	PCB 210.339 .45A LASI900 A LAM	PCB 210.339 .45A LASI900 A LAM	EA	1,000
134-742803	IC/74LC20N 3 NARD	IC/74LC20N 3 NARD	LA	1,000
134-743203	IC/74LC24N 1 LF 1 LOF	IC/74LC24N 1 LF 1 LOF	EA	2,000
134-745303	IC/7433N 0/C 2-PADJD	IC/7433N 0/C 2-PADJD	EA	2,000
134-727600	IC/4453 DFAMP	IC/4453 DFAMP	EA	1,000
134-749100	IC/74LS27 VOLTAGE CONFIGURATOR	IC/74LS27 VOLTAGE CONFIGURATOR	EA	1,000
201-100100	RES 1K 0% 1/3W	RES 1K 0% 1/3W	EA	1,000
201-400200	RES 40K 0% 1/3W	RES 40K 0% 1/3W	EA	2,000
201-130100	RES 4.3K 0% 1/3W	RES 4.3K 0% 1/3W	EA	4,000
201-200100	RES 2K 0% 1/3W	RES 2K 0% 1/3W	EA	1,000
201-499100	RES 4.99K 0% 1/3W	RES 4.99K 0% 1/3W	EA	3,000
201-909100	RES 9.09K 0% 1/3W	RES 9.09K 0% 1/3W	EA	2,000
415-010700	204A ADC BD	204A ADC BD	EA	2,000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	REVISION	ENG DWG	VENDOR U/M	OTY
305-003500	2	000-906304	PCB/204A AOC	X	EA	2,000	
	2	021-701600	TRN PNP 2N3905 40V .35W B MOI		EA	6,000	
	2	021-702200	TRN NPN 2N3903 40V 1W B MOT		EA	10,000	
	2	021-703200	TRN FET/JN 2N5047 50V .2W A MOT		EA	2,000	
	2	022-700800	DIO RECT 1N4004 400V 1A 6 TXI		EA	4,000	
	2	022-711600	DIO TRIRE 1N4376 10V .05A 6 FCH		EA	2,000	
	2	022-713000	DIO RECT FDH300 450V .2A 6 FCH		EA	2,000	
	2	022-714100	DIO SCHT HSCH1001 60V15MAG HFC		EA	2,000	
	2	023-700100	CAP 100PF 500V 5% MICA R ARC		EA	4,000	
	2	023-700200	CAP 1000PF 300V 5% MICA R ARC		EA	2,000	
	2	023-700500	CAP 250PF 500V 5% MICA R ARC		EA	2,000	
	2	023-707500	CAP 6.8MF 35V 10% TANT 6 NEM		EA	8,000	
	2	023-708800	CAP 33PF 500V 5% MICA R ARC		EA	2,000	
	2	023-710200	CAP 5.5 TO 48PF 50V CERM STT		EA	4,000	
	2	023-710600	CAP 10PF 1000V 10% CERM R CLB		EA	2,000	
	2	023-711200	CAP 220MF 10V 10% TANT 6 NEM		EA	2,000	
	2	023-711300	CAP .4MF 250V 10% PLYE R SEC		EA	32,000	
	2	023-745300	CAP 3.3PF 500V 25% CERM 6 ERI		EA	2,000	
	2	023-745500	CAP 1.5 TO .25PF TRIMMER R EERJ		EA	6,000	
	2	023-716400	CAP 1.2PF 300V 5% MICA R ARC		EA	4,000	
	2	023-716900	CAP 1.5 PFD ERIE		EA	2,000	
	2	023-717900	CAP 8PF 300V 6.2% MICA R ARC		EA	4,000	
	2	023-725900	CAP 3.5 TO 10PF 63V CERM STT		EA	2,000	
	2	024-745000	CUN/64F DIP/SOL BDY DILBQ64P		EA	2,000	
	2	025-734500	SW/SL 1P2T CK 1401M2AV2B		EA	2,000	
	2	025-734800	SW/SL 2P2T CK 1101M2AB		EA	2,000	
	2	025-735400	SW/RO 6PL9PS SG 1378P/REL-18-3		EA	2,000	
	2	026-707500	NOT ON FILE		EA	2,000	
	2	026-708000	FOT/2K PCB 3299W-1-202		EA	2,000	
	2	026-710700	FOT/200 PCB BRS 3299W-4-204		EA	2,000	
	2	026-712000	FOT 1K PCB .5W 3299W1101 BRS		EA	2,000	
	2	026-712500	FOT/5K PCB BRS 3299W-1-502		EA	2,000	
	2	026-713200	FOT 500 PCB .5W 3299W1501 BRS		EA	6,000	
	2	026-713300	FOT 2M PCB .5W 3299W1205 BRS		EA	4,000	
	2	026-713500	FOT/5K PCB .4W 83C1DE28J BRS	X	EA	2,000	
	2	098-700200	HT SNK/207CB W		EA	2,000	
	2	101-010100	RES 100 0.5% 1/2W		EA	2,000	
	2	101-010900	RES 1 10% 1/2W		EA	6,000	
	2	101-082000	RES 82 0.5% 1/2W		EA	2,000	
	2	108-010000	RES 10 0.5% 1/4W		EA	6,000	
	2	108-010100	RES 100 0.5% 1/4W		EA	8,000	
	2	108-010200	RES 1K 0.5% 1/4W		EA	4,000	
	2	108-022100	RES 220 0.5% 1/4W		EA	4,000	
	2	108-022300	RES 22K 0.5% 1/4W		EA	2,000	
	2	108-047200	RES 4.7K 0.5% 1/4W		EA	6,000	
	2	108-056100	RES 560 0.5% 1/4W		EA	2,000	
	2	124-702600	REG 21D38V .15A LAS1000 A LAM		EA	2,000	
	2	134-730600	IC/CA3140S OPAMP		EA	2,000	

## 204A PLUG-IN

8855-003500

2 . . . . .	434-739003	IC/74S374N REGISTER	EA	2,000
2 . . . . .	434-748900	IC/TDS 5430 8 BIT SONS ADC	EA	2,000
2 . . . . .	434-749000	IC/CA3054 OP AMP	EA	6,000
2 . . . . .	204-400100	RES 1K 0.1%	PRES	2,000
2 . . . . .	204-400200	RES 10K 0.1%	PRES	2,000
2 . . . . .	204-400400	RES 1M 0.1%	PRES	2,000
2 . . . . .	204-430100	RES 1.3K 0.1%	PRES	2,000
2 . . . . .	204-143200	RES 14.3K 0.1%	PRES	2,000
2 . . . . .	204-162400	RES 1.62M 0.1%	PRES	2,000
2 . . . . .	204-178100	RES 1.78K 0.1%	PRES	2,000
2 . . . . .	204-178300	RES 1.78K 0.1%	PRES	2,000
2 . . . . .	204-196400	RES 1.96M 0.1%	PRES	2,000
2 . . . . .	204-200000	RES 200 0.1%	PRES	2,000
2 . . . . .	204-200100	RES 2K 0.1%	PRES	2,000
2 . . . . .	204-200200	RES 20K 0.1%	PRES	2,000
2 . . . . .	204-249000	RES 249 0.1%	PRES	2,000
2 . . . . .	204-249100	RES 2.49K 0.1%	PRES	2,000
2 . . . . .	204-249200	RES 24.9K 0.1%	PRES	2,000
2 . . . . .	204-316100	RES 3.16K 0.1%	PRES	2,000
2 . . . . .	204-412100	RES 4.12K 0.1%	PRES	2,000
2 . . . . .	204-499000	RES 499 0.1%	PRES	2,000
2 . . . . .	204-499100	RES 4.99K 0.1%	PRES	2,000
2 . . . . .	204-825100	RES 8.25K 0.1%	PRES	2,000
1 . . . . .	415-010800	204A MEMORY BD	X	1,000
2 . . . . .	000-906704	FOB/204A MEMORY	EA	1,000
2 . . . . .	024-708800	TRN NPN 2N5301 40V 200W D MOT	EA	1,000
2 . . . . .	022-700800	DIO RECT 1N4004 400V 1A O TXI	EA	1,000
2 . . . . .	022-707100	DIO TRIM 3SM2 200V 2A 6 SEM	EA	1,000
2 . . . . .	022-714100	DTO SCHT HSCH1001 60V15MAO HFC	EA	1,000
2 . . . . .	022-715200	DIO SCHT USK540 40V 5A 6 VAR	EA	2,000
2 . . . . .	023-100200	CAP 1.000PF 300V 5% MLCA R AEC	EA	1,000
2 . . . . .	023-701600	CAP 2.2MF 20V 10% TANT 5 KEN	EA	1,000
2 . . . . .	023-702400	CAP -0.1MF 100V 20% CERAMIC SFG	EA	16,000
2 . . . . .	023-711100	CAP 4.7MF 10V 10% TANT 6 KEN	EA	4,000
2 . . . . .	023-714200	CAP 220MF 10V 10% TANT 6 KEN	EA	1,000
2 . . . . .	023-711300	CAP -1MF 250V 10% FLYYE R SEC	EA	1,000
2 . . . . .	023-715100	CAP -0.5MF 50V CERAMIC GRL	EA	9,000
2 . . . . .	024-715900	CON/16F DIP/SOL AMP 640358-3	EA	32,000
2 . . . . .	024-727000	CON/6M REC/CRP AMP 1-350234-9	EA	1,000
2 . . . . .	024-739900	CONN/MOLEX 22-16-2051	EA	1,000
2 . . . . .	025-734800	SW/SL 2P2T CK 4104M2AB	EA	2,000
2 . . . . .	032-700300	INSUL/DIODE	EA	1,000
2 . . . . .	034-715500	GUIDE/SCANBE 44633-1	EA	4,000
2 . . . . .	085-708600	CBL/34 COND/AP 922541-34-99-3	EA	2,000
2 . . . . .	098-700400	HT SNK/P.C.B. COOLER	EA	1,000
2 . . . . .	100-700700	RES NET/CSP10E-01-502J	EA	1,000
2 . . . . .	103-010100	RES 100 0.5% 1W	EA	1,000
2 . . . . .	108-010000	RES 10 0.5% 1/4W	EA	1,000

ASSEMBLY LEVEL COMPONENT DESCRIPTION QTY  
885-003500

			ENG DWG	VENDOR U/M	QTY
		204A PLUG-IN			1
2.....	108-015200	RES 1.5K 0.5% 1/4W		EA	1,000
2.....	108-022300	RES 2K 0.5% 1/4W		EA	2,000
2.....	124-702600	REG 2T0389 ,15A LAS 1000 A LAM		EA	1,000
2.....	134-714203	IC/74S74N FLIP-FLOP		EA	1,000
2.....	134-723203	IC/74LS257 MULTIPLEXER		EA	5,000
2.....	134-724903	IC/74S369 COUNTER		EA	3,000
2.....	134-737400	IC/F2415AL		EA	32,000
2.....	134-739003	IC/74S374N REGISTER		EA	2,000
2.....	134-739103	IC/74LS244N OCTAL BUFFER		EA	6,000
2.....	134-739203	IC/74S32N 2-OR		EA	2,000
2.....	134-739303	IC/74S33N MULTIPLEXER		EA	1,000
2.....	134-739403	IC/74S157N MULTIPLEXER		EA	2,000
2.....	204-169400	RES 1.69K 0.1% 1/8W	PRES	EA	1,000
2.....	204-237100	RES 2.37K 0.1% 1/8W	PRES	EA	1,000
2.....	204-316100	RES 3.16K 0.1% 1/8W	PRES	EA	1,000
2.....	204-825000	RES 825 0.1% 1/8W	PRES	EA	1,000
4.....	415-010900	204A CONTROL BD		EA	1,000
2.....	000-906601	PCB/204A CONTROL	X	EA	1,000
2.....	022-709400	DIO TRRF IN4150 50V 2A G TXT		EA	1,000
2.....	023-702400	CAP .01MF 100V 20% CERM R SPG		EA	4,000
2.....	023-706800	CAP 150PF 500V 5% MICA R ARC		EA	1,000
2.....	023-707500	CAP 6.8MF 35V 10% TANT G KEM		EA	4,000
2.....	023-714100	CAP 4.7MF 10V 10% TANT G KEM		EA	4,000
2.....	023-714200	CAP 220MF 10V 10% TANT G KEM		EA	2,000
2.....	023-714300	CAP .1MF 250V 10% PFLY R SEC		EA	2,000
2.....	023-715100	CAP .05MF 50V CERM R ARC		EA	23,000
2.....	023-716400	CAP 12PF 300V 5% MICA R ARC		EA	1,000
2.....	023-717000	CAP 3PF 300V 16% MICA R ARC		EA	1,000
2.....	023-717500	CAP 28KMF 15V ALUM S MEP		EA	1,000
2.....	023-718200	CAP 27PF 300V 5% MICA R ARC		EA	1,000
2.....	023-719600	CAP 48PF 300V 5% MICA R ARC		EA	2,000
2.....	024-715900	CONN/16F DIP/SOL AMP 640358-3		EA	6,000
2.....	024-740800	CONN/2 PIN/6040-22-18-2023		EA	1,000
2.....	025-727000	SW/ROT/32 POS		EA	1,000
2.....	034-715500	GUIDE/SCANBE 14633-1		EA	4,000
2.....	040-707900	CLIF/FRICHCO V-1011		EA	1,000
2.....	085-708800	CBL/26 COND/AP 922524-26-99-3		EA	1,000
2.....	085-708900	CBL/20 COND/AP 922524-20-99-03		EA	2,000
2.....	085-900200	CBL/10 & 34 COND/AP 2044 INTER	X	EA	1,000
2.....	098-705300	HT SNK/6072B		EA	1,000
2.....	100-700700	RES NET/CSP10E-01-502J		EA	3,000
2.....	100-701200	RES NET/CSP10E-04-500J		EA	4,000
2.....	108-010300	RES 10K 0.5% 1/4W		EA	4,000
2.....	108-012300	RES 1.2K 0.5% 1/4W		EA	5,000
2.....	108-015300	RES 1.5K 0.5% 1/4W		EA	2,000
2.....	108-022200	RES 2.2K 0.5% 1/4W		EA	1,000
2.....	108-022300	RES 2.2K 0.5% 1/4W		EA	1,000
2.....	108-027300	RES 27K 0.5% 1/4W		EA	1,000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG. Dwg.	VENDOR U/M	QTY
985-003500		204A PLUG-IN				1
	2 . . . . .	108-047100	RES .470	05%	1/4W	1,000
	2 . . . . .	108-056000	RES .56	05%	1/4W	2,000
	2 . . . . .	108-082200	RES .8.2K	05%	1/4W	3,000
	2 . . . . .	121-701400	REG .2.5 TO .329	.16	.4698 D MDT	4,000
	2 . . . . .	134-711203	IC / 74374N	FLIP-FLOP		5,000
	2 . . . . .		IC / 74LS00N	2-NAND		5,000
	2 . . . . .		IC / 74LS03	FLIP-FLOP		2,000
	2 . . . . .		IC / 74LS253N	MULTIPLEXER		2,000
	2 . . . . .		IC / MK5009P	MOSET		4,000
	2 . . . . .		IC / 74LS345N	MULTIPLEXER		2,000
	2 . . . . .		IC / 74LS503			2,000
	2 . . . . .		IC / 74LS503	2-XOR		1,000
	2 . . . . .		IC / 74LS503	MONOSTABLE		1,000
	2 . . . . .		IC / 74LS173N			1,000
	2 . . . . .		IC / 74S02N	2-NOR		1,000
	2 . . . . .		IC / 74LS175N	REGISTER		1,000
	2 . . . . .		IC / 74LS175N	MULTIPLEXER		1,000
	2 . . . . .		IC / 74S283N	FROM		1,000
	2 . . . . .		IC / 74LS174N	REGISTER		1,000
	2 . . . . .		IC / 74LS174N	3-NAND		1,000
	2 . . . . .		IC / 74LS175N	2-NAND		1,000
	2 . . . . .		IC / 74S283N	2-NAND		1,000
	2 . . . . .		IC / 74S283N	MULTIPLEXER		1,000
	2 . . . . .		IC / 74S162	COUNTER		2,000
	2 . . . . .		IC / 74LS367N	HEX DRIVER		1,000
	2 . . . . .		IC / 74LS254N	MULTIPLEXER		1,000
	2 . . . . .		IC / 74S283J	ADDER		1,000
	2 . . . . .		IC / F95L23DC			2,000
	2 . . . . .		IC / F10476DC	FLIP-FLOP		1,000
	2 . . . . .		IC / F10425FC	ECL TRANSLATOR		1,000
	2 . . . . .		IC / F10010DC	ECL DECADE COUNTER		2,000
	2 . . . . .		IC / F10160C			2,000
	2 . . . . .		IC / F10145DC	ECL RECEIVER		1,000
	2 . . . . .		IC / F10434DC	ECL FLIP-FLOP		1,000
	2 . . . . .		IC / F10424DC	ECL TRANSLATOR		1,000
	2 . . . . .		IC / 74S32N	2-OR		1,000
	2 . . . . .		IC / 74S157N	MULTIPLEXER		1,000
	2 . . . . .		CRY/400 MHZ	.007%		1,000
	2 . . . . .		RES .450	.04%	1.78W	1,000
	2 . . . . .		RES .249	.01%	1.78W	1,000
	2 . . . . .		465-002700	204A FRONT PANEL		1,000
	2 . . . . .		011-900300	BRKT / 204A FRONT RETAINER	X	1,000
	2 . . . . .		022-716600	DIO LEDG HV52124 2V 35mA L MON		1,000
	2 . . . . .		024-721400	CON/4F GXL/SOL APH .31-010		3,000
	2 . . . . .		035-701300	BUTT/PUSH CL JS2302-04500		9,000
	2 . . . . .		045-703500	KNOB/KFN-900BA-1/4"		3,000
	2 . . . . .		045-703600	KNOB/KN-500BA-1/8"		3,000
	2 . . . . .		068-900302	PAN / 204A FRONT		1,000
	2 . . . . .		068-900401	PAN / 204A FRONT SUB		1,000
	2 . . . . .		123-707400	MECH MIG/RECT LED ADAPTER		1,000
	1 . . . . .		475-004000	204A MECHANICAL, MISC.		1,000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG Dwg	VENDOR U/M	QTY
885-003500		204A PLUG-IN		X	EA	4,000
	2.....	011-728000	BRKT/204 SUPPORT	X	EA	2,000
	2.....	044-900001	SHIELD/204A ADC FRONT	X	EA	2,000
	2.....	044-900101	SHIELD/204A ADC REAR	X	EA	2,000
	2.....	044-900200	SHIELD/204A MEMORY ED	X	EA	4,000
	2.....	044-900300	SHIELD/204A TRIGGER ED	X	EA	4,000
	2.....	085-705400	PROBE/COLINE 900-90-505		EA	2,000

5/15/79  
685-001900

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
1.....	1.....	415-005900	206 CONTROL BD		EA	1.000
2.....	2.....	000-901205	PCB/TRANS2N4265	X	EA	1.000
2.....	2.....	021-702700	DIODE/REG/NBD-101		EA	2.000
2.....	2.....	022-706000	DIODE/REG/NBD-101		EA	2.000
2.....	2.....	023-029200	CAP/22MF 10% 15V TANT AXL		EA	1.000
2.....	2.....	023-700100	CAP/100PF 5% 500V MICA RAD		EA	2.000
2.....	2.....	023-700300	CAP/500PF 5% 500V MICA RAD		EA	1.000
2.....	2.....	023-700500	CAP/250PF 5% 500V MICA RAD		FA	1.000
2.....	2.....	023-702400	CAP/.01MF 20% 100V CERM RAD		EA	5.000
2.....	2.....	023-710600	CAP/10PF 10% 1000V CERM RAD		EA	1.000
2.....	2.....	023-711100	CAP/.47MF 10% 10V TANT AXL		EA	4.000
2.....	2.....	023-715100	CAP/.05MF 500V CERM RAD		EA	5.000
2.....	2.....	024-715900	CONN/16F DIP/SOL AMP 640358-3		EA	2.000
2.....	2.....	024-734000	CONN/IC SOC/20 PIN		EA	1.000
2.....	2.....	025-727000	SW/ROT/32 POS.		EA	1.000
2.....	2.....	100-707000	RES NET/CSP10E-01-502J		EA	2.000
2.....	2.....	108-010000	RES/10 OHM/1/4W/5%		EA	3.000
2.....	2.....	108-010200	RES/4K/1/4W/5%		EA	2.000
2.....	2.....	108-010300	RES/40K/1/4W/5%		EA	1.000
2.....	2.....	108-015200	RES/1.5K/1/4W/5%		EA	1.000
2.....	2.....	108-022100	RES/2200HM/1/4W/5%		EA	1.000
2.....	2.....	108-022200	RES/2.2K/1/4W/5%		EA	2.000
2.....	2.....	108-033200	RES/3.3K/1/4W/5%		EA	1.000
2.....	2.....	108-047000	RES/470HM/1/4W/5%		EA	2.000
2.....	2.....	108-047100	RES/4700HM/1/4W/5%		EA	1.000
2.....	2.....	108-068400	RES/6800HM/1/4W/5%		EA	1.000
2.....	2.....	134-701803	IC/7400N 2-NAND		EA	1.000
2.....	2.....	134-710103	IC/74164N SHIFT REGISTER		EA	2.000
2.....	2.....	134-711203	IC/74S74N FLIP-FLOP		EA	5.000
2.....	2.....	134-712803	IC/74LS00N 2-NAND		EA	4.000
2.....	2.....	134-712903	IC/74LS04N HEX INVERTER		EA	2.000
2.....	2.....	134-713203	IC/74LS74N FLIP-FLOP		EA	1.000
2.....	2.....	134-713703	IC/74LS253N MULTIPLEXER		EA	4.000
2.....	2.....	134-713900	IC/MK5009P MOS LSI		EA	1.000
2.....	2.....	134-715503	IC/74LS153N MULTIPLEXER		EA	2.000
2.....	2.....	134-716203	IC/74S175N REGSTER		EA	1.000
2.....	2.....	134-717403	IC/74S287N FROM		EA	1.000
2.....	2.....	134-717903	IC/74LS86N 2-XOR		EA	1.000
2.....	2.....	134-718803	IC/74LS175N REGISTER		EA	6.000
2.....	2.....	134-719403	IC/74LS175N COUNTER		EA	1.000
2.....	2.....	134-719403	IC/74LS151N MULTIPLEXER		EA	3.000
2.....	2.....	134-719503	IC/74S288N PROM		EA	1.000
2.....	2.....	134-720403	IC/74LS02N 2-NOR		EA	2.000
2.....	2.....	134-722703	IC/74LS08N 2-AND		EA	2.000
2.....	2.....	134-724900	IC/74S169 COUNTER		EA	2.000
2.....	2.....	134-728803	IC/74S472 FROM		EA	1.000
2.....	2.....	134-730903	IC/74LS367N HEX DRIVER		EA	4.000
2.....	2.....	134-731603	IC/74LS251N MULTIPLEXER		EA	1.000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
895-001900		206-1 PLUG-IN				1
	2.....	191-704600	CRYSTAL/HC18/U 40 MHZ .005			
1.....	415-006000	206 STORAGE CONTROL BD		EA	EA	1,000
2.....	000-900806	PCB/206 STORAGE CONTROL		EA	EA	1,000
2.....	024-714400	CON/20F REC/IDP MMN 3421-0000		EA	EA	2,000
2.....	025-721600	SW/PB 1P2TM SH SRL/BLK/RED		EA	EA	2,000
2.....	025-726900	SW/PB/GREEN LED		EA	EA	1,000
2.....	025-727900	SW/GF-126-PC-620-18		EA	EA	3,000
2.....	108-022100	RES/220OHM/1/4W/5%		EA	EA	3,000
2.....	108-022200	RES/2.2K/1/4W/5%		EA	EA	3,000
2.....	108-022300	RES/22K/1/4W/5%		EA	EA	3,000
1.....	415-006100	206 MEMORY BD		EA	EA	1,000
2.....	000-901403	PCB/206 MEMORY		EA	EA	1,000
2.....	023-711100	CAP/4.7MF 10% 10V TANT AXL		EA	EA	5,000
2.....	023-745100	CAP/.05MF 50V CERM RAD		EA	EA	5,000
2.....	134-717903	IC/74LS86N 2-XOR		EA	EA	1,000
2.....	134-722403	IC/74LS139N MULTIPLEXER		EA	EA	1,000
2.....	134-723903	IC/74LS257 MULTIPLEXER		EA	EA	11,000
2.....	134-724900	IC/74S169 COUNTER		EA	EA	3,000
2.....	134-725103	IC/2102L IDCQP		EA	EA	48,000
1.....	415-006200	206 MOTHER BD		EA	EA	1,000
2.....	000-901403	PCB/206 MOTHER		EA	EA	1,000
2.....	015-702700	FIN/350036-2 26.18 GA		EA	EA	3,000
2.....	021-706200	TRANSIS/E-230/SILICONIX		EA	EA	2,000
2.....	022-703800	DIODE/IN5234/ZENER/6.2V		EA	EA	1,000
2.....	022-709400	DIODE/IN4150		EA	EA	3,000
2.....	023-700200	CAP/1000PF 5% 300V MICA RAD		EA	EA	2,000
2.....	023-700300	CAP/500PF 5% 500V MICA RAD		EA	EA	1,000
2.....	023-702400	CAP/.01MF 20% 100V CERM RAD		EA	EA	1,000
2.....	023-706900	CAP/.05MF 50V ALUM AXL		EA	EA	1,000
2.....	023-708000	CAP/3.3PF 15% 1000V CERM RAD		EA	EA	2,000
2.....	023-714100	CAP/4.7MF 10% 10V TANT AXL		EA	EA	1,000
2.....	023-713500	CAP/4.7MF 10% 50V TANT AXL		EA	EA	4,000
2.....	023-715100	CAP/.05MF 50V CERM RAD		EA	EA	4,000
2.....	024-733200	CONN/6M HDR/SOL AMP 9-350259-2		EA	EA	1,000
2.....	024-737200	CONN/56PIN/AMP 67907.3		EA	EA	2,000
2.....	024-744700	CONN/80F EDG/SOL MCP MP0125-40		EA	EA	2,000
2.....	108-010300	RES/10K 1/4W/5%		EA	EA	2,000
2.....	108-010400	RES/100K 1/4W/5%		EA	EA	1,000
2.....	108-010500	RES/1MEG 1/4W/5%		EA	EA	1,000
2.....	108-012300	RES/12K 1/4W/5%		EA	EA	2,000
2.....	108-015300	RES/15K 1/4W/5%		EA	EA	2,000
2.....	108-018300	RES/18K 1/4W/5%		EA	EA	2,000
2.....	108-022000	RES/220OHM 1/4W/5%		EA	EA	4,000
2.....	108-022100	RES/220OHM 1/4W/5%		EA	EA	1,000
2.....	108-022300	RES/22K 1/4W/5%		EA	EA	3,000
2.....	108-027100	RES/270OHM 1/4W/5%		EA	EA	1,000
2.....	108-033100	RES/330OHM 1/4W/5%		EA	EA	2,000
2.....	108-033200	RES/3.3K 1/4W/5%		EA	EA	2,000

885-001900

ASSEMBLY LEVEL

ENG DWG VENDOR U/M QTY

206-1 PLUG-IN

ASSEMBLY	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
2.....	108-047100	RES/4700HM/1/4W/5%		EA	1,000
2.....	108-047300	RES/47K/1/4W/5%		EA	2,000
2.....	108-068100	RES/6800HM/1/4W/5%		EA	1,000
2.....	108-068200	RES/6.8K/1/4W/5%		EA	1,000
2.....	108-082200	RES/8.2K/1/4W/5%		EA	2,000
2.....	134-714900	IC/LM318H OPAMP		EA	2,000
2.....	134-712703	IC/TCL820CN3		EA	1,000
2.....	134-743203	IC/74LS74N FLIP-FLOP		EA	2,000
2.....	134-74123N	IC/74123N MONOSTABLE		EA	1,000
2.....	134-723903	IC/74LS257 MULTIFLEXER		EA	1,000
1.....	415-006300	EXTENDER BD/PLUG-IN	X	EA	1,000
2.....	000-902301	PCB/EXTENDER BD/PLUG-IN	X	EA	1,000
2.....	024-712500	CON/20F EDG/SOL CIN 25241030160		EA	1,000
1.....	465-001600	206 FRONT PANEL		EA	1,000
2.....	010-700900	NUT/BL ANODI W-NU-17D		EA	1,000
2.....	011-721607	BRKT/MOTHER BD/EXPL	X	EA	1,000
2.....	011-723400	BRKT/206 RETAINER	X	EA	1,000
2.....	020-701808	CHAS/PLUG-IN		EA	1,000
2.....	022-714500	DIODE/LED 406 GREEN		EA	1,000
2.....	023-722600	CAP/.4MF D @ 250V 5%		EA	1,000
2.....	024-058900	CON/1F CXL/SUL APH F-UG 657-U		EA	1,000
2.....	024-714400	CON/20F REC/IDP MM 3421-0000		EA	1,000
2.....	025-718000	SW/C + K #8531		EA	1,000
2.....	025-727600	SW/CTS/#T202/2 POLE/2-5STA		EA	3,000
2.....	026-710000	POT/100K/C.L. BA147-0134		EA	1,000
2.....	034-713300	GUIDE/SCANBE #14633-4		EA	2,000
2.....	045-703200	KNOB/KPN-500BA/1/8		EA	3,000
2.....	045-703500	KNOB/KPN-900BA-1/4"		EA	1,000
2.....	045-703600	KNOB/KN-500BA-1/8"		EA	1,000
2.....	051-700100	BUMPER/SU5004X		EA	3,000
2.....	068-727708	PAN/206 FRONT		EA	1,000
2.....	093-702200	FASTNR/STUD/PEM CFHC-632-4		EA	4,000
2.....	093-702400	FASTNR/SCR 6-32 X 1/4" BLK		EA	4,000
1.....	465-001700	BLANK PANEL/AMP		EA	1,000
1.....	068-729700	PANEL/BLANK/D TI AMP	X	EA	1,000
1.....	475-001900	206 FINAL ASSEMBLY		EA	3,000
2.....	034-714300	GUIDE/W/TAPE		EA	1,000
2.....	042-714100	COVER/96B	X	EA	1,000
2.....	044-705000	SHIELD/MEM BD/206	X	EA	1,000
1.....	845-000200	DII AMP		EA	1,000
2.....	415-005800	206/205 ADC BD		EA	1,000
3.....	000-900904	PCR/206/205 ADC	X	EA	1,000
3.....	021-701800	TRANSIS/2N3905		EA	2,000
3.....	021-702200	TRANSIS/2N3903		EA	8,000
3.....	024-704700	TRANSIS/2N5224/NFN/12V/.6MW		EA	5,000
3.....	024-706300	TRANSIS/2N3906		EA	15,000
3.....	022-711400	DIODE/REGULATOR 79GUIC		EA	2,000
3.....	022-711500	DIODE/REGULATOR 78GUIC		EA	2,000

885-001900

ASSEMBLY LEVEL

INDENTED PARTS LIST

PAGE

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206-1 PLUG-IN

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY	PAGE
885-001900	3.....	022-741600	DIODE/1N4376/.75 NS TTR/20V	EA	46.000	i	4
	3.....	022-74100	DIODE/HSC1 1001/SCHOTTKY	EA	16.000		
	3.....	023-029200	CAP/22MF 10% 15V TANT AXL	EA	2.000		
	3.....	023-701600	CAP/2.2MF 10% 20V TANT AXL	EA	2.000		
	3.....	023-702400	CAP/.01MF 20% 100V CERM RAD	EA	4.000		
	3.....	023-702700	CAP/.22MF 10% 35V TANT AXL	EA	2.000		
	3.....	023-706700	CAP/.390FF 5% 500V MICA RAD	EA	2.000		
	3.....	023-706800	CAP/150PF 5% 500V MICA RAD	EA	1.000		
	3.....	023-709100	CAP/20PF 5% 500V MICA RAD	EA	4.000		
	3.....	023-711000	CAP/22MF 10% 35V TANT AXL	EA	1.000		
	3.....	023-712200	CAP/.022MF 10% 200V PLYE AXL	EA	1.000		
	3.....	023-714700	CAP/6FFD 300U	EA	5.000		
	3.....	023-719700	CAP/2.2MED 50U	EA	2.000		
	3.....	024-715900	CONN/16F DIP/SOL AMP 640358-3	EA	6.000		
	3.....	026-705600	POT/2K PCB DAL 784-20-202	EA	1.000		
	3.....	026-705700	POT/5K PCB DAL 784-20-502	EA	1.000		
	3.....	026-706200	POT/SOK PCB DAL 784-20-503	EA	5.000		
	3.....	026-707700	POT/ET 1.4W-200 MEPCO	EA	5.000		
	3.....	100-700900	RES NET/7X25K/.01%	EA	1.000		
	3.....	10B-010100	RES/1000HM/1/4W/5%	EA	3.000		
	3.....	10B-010200	RES/1K/1/4W/5%	EA	3.000		
	3.....	10B-010300	RES/1.0K/1/4W/5%	EA	1.000		
	3.....	10B-010400	RES/100K/1/4W/5%	EA	3.000		
	3.....	10B-015100	RES/1500HM/1/4W/5%	EA	1.000		
	3.....	10B-015300	RES/1.5K/1/4W/5%	EA	5.000		
	3.....	10B-022000	RES/220HM/1/4W/5%	EA	1.000		
	3.....	10B-022100	RES/2200HM/1/4W/5%	EA	1.000		
	3.....	10B-033200	RES/3.3K/1/4W/5%	EA	4.000		
	3.....	10B-039200	RES/3.9K/1/4W/5%	EA	3.000		
	3.....	10B-047000	RES/470HM/1/4W/5%	EA	7.000		
	3.....	10B-047200	RES/4.7K/1/4W/5%	EA	6.000		
	3.....	10B-047300	RES/47K/1/4W/5%	EA	7.000		
	3.....	10B-068200	RES/6.8K/1/4W/5%	EA	6.000		
	3.....	134-710203	IC/74LS83N ADDER	EA	3.000		
	3.....	134-710403	IC/74S00N 2-NAND	EA	2.000		
	3.....	134-712803	IC/74LS00N 2-NAND	EA	1.000		
	3.....	134-718803	IC/74LS175N REGISTER	EA	10.000		
	3.....	134-722303	IC/74LS298N REGISTER	EA	3.000		
	3.....	134-722703	IC/74LS08N 2-AND	EA	2.000		
	3.....	201-001000	RES/P 1/8W/1 OHM	EA	1.000		
	3.....	201-100100	FRES/ 1/8W 1K	EA	7.000		
	3.....	201-140200	FRES 1/8W /14.0K	EA	1.000		
	3.....	201-142400	FRES 1/8W/124 OHMS	EA	2.000		
	3.....	201-137000	FRES 1/8W /137 OHM	EA	3.000		
	3.....	201-143000	FRES 1/8W /14.3 OHM	EA	2.000		
	3.....	201-143200	FRES 1/8W/14.3K	EA	1.000		
	3.....	201-150000	FRES 1/8W/150 OHM	EA	7.000		
	3.....	201-450300	FRES/150K/ 1/8 W/1%	EA	3.000		

ASSEMBLY 885-001900

LEVEL 1

COMPONENT 206-4 PLUG-IN

DESCRIPTION	ENG DWG	VENDOR	U/M	QTY
RES/1/8W/.178 OHM				3.000
PRES 1/8W/2K TRC				5.000
204-200100 PRES 1/8W/20K I.R.C.				1.000
204-200200 PRES 1/8W/2.21K				1.000
204-221100 PRES 1/8W/2.24K				22.000
204-249200 PRES 1/8W/24.9K				1.000
204-267900 PRES 1/8W /26.7 OHM				1.000
204-270100 RES P/2.7K 1% 1/8W				1.000
204-316100 PRES 1/8W/3.16K TRC				1.000
204-374100 PRES 1/8W/3.74K				1.000
204-374200 PRES 1/8W/37.4K				1.000
204-402000 PRES 1/8W/402 OHM TRC				1.000
204-499000 PRES 1/8W/499 OHM				4.000
204-499100 PRES 1/8W/4.99K				1.000
204-750100 PRES 1/8W/7.5K				1.000
204-806100 PRES/ 1/8W 8.06K 1%				5.000
204-887200 PRES 1/8W/88.7 K				1.000
415-006400 206/205 DIL AMP BO				1.000
000-901004 PCB/206/205 DIL AMP				1.000
300-205 DIL AMP X				1.000
021-704700 TRANSIS/2N5224/NPN/12V/.6MW				1.000
021-706300 TRANSIS/2N3906				1.000
023-029200 CAP/22MF 10% 15V TANT AXL				1.000
023-700200 CAP/1000PF 5% 300V MICA RAD				2.000
023-702400 CAP/.01MF 20% 100V CERM RAD				4.000
023-702800 CAP/.68MF 10% 35V TANT AXL				1.000
023-706800 CAP/150PF 5% 500V MICA RAD				1.000
023-740200 CAP/5.5-18PF 50V CERM RAD				10.000
023-710600 CAP/10PF 10% 1000V CERM RAD				2.000
023-711400 CAP/.0022MF 10% 200V FLYE AXL				1.000
023-712100 CAP/.01MF 10% 200V FLYE AXL				2.000
023-718100 CAP/150PF 5% 500V MICA RAD				2.000
023-722600 CAP/1MFD @ 250V 5%				1.000
024-712500 CON/20F EDG/SOL CIN 2521030160				1.000
025-726700 SW/PB-45/3 STA/6 POLE C.A.				1.000
025-726800 SW/PB-10/3 STA/2 POLE C.L				1.000
026-705500 POT/1K PCB DAL 784-20-102				2.000
026-707700 POT/ET 14W-200 MEFCO				3.000
026-709800 POT/10K/MEFCO ET14-10K				3.000
026-709900 POT-25/MEFCO ET14-25				2.000
108-010100 RES/1000HM/1/4W/5%				7.000
108-010400 RES/100K/1/4W/5%				2.000
108-022200 RES/2.2K/1/4W/5%				2.000
108-022300 RES/22K/1/4W/5%				1.000
108-033400 RES/330K/1/4W/5%				1.000
108-047200 RES/4.7K/1/4W/5%				3.000
108-068100 RES/6800HM/1/4W/5%				1.000
108-082200 RES/8.2K/1/4W/5%				1.000
134-730600 IC/CA3140S OPAMP				5.000
204-100000 PRES 1/8W/100 OHMS MF5C 1/8W				1.000

ASSEMBLY  
885-001900LEVEL  
COMPONENT  
DESCRIPTION

		ENG DWG	VENDOR DWG	U/M	QTY
					1
3.....	204-100200	PRES 1/8W/10K 1/8W			
3.....	204-100300	PRES 1/8W/100K 1/8W			
3.....	204-100400	PRES 1/8W/1, MEG 1/8W			
3.....	204-105200	PRES 1/8W/10, 5K			
3.....	204-169200	PRES 1/8W/16, 9K I.R.C.			
3.....	204-249300	PRES 1/8W/249K I.R.C.			
3.....	204-374100	PRES 1/8W/3, 74K			
3.....	204-374200	PRES 1/8W/37, 4K			
3.....	204-499100	PRES 1/8W/4, 99K			
3.....	204-887100	PRES/8.87K 1/8W			
3.....	204-909300	PRES/909K/ 1/8 W/1%			
3.....	214-4-422400	PRSR/RES 4, 22K .4% 1/8W			
2.....	475-002100	206/205 DIL AMP FINAL ASSY			
3.....	024-058900	CON/1F CXL/SOL APH F-UG 657-U			
3.....	025-705500	SW/SL 2P2T CW GF-126-620-28			
3.....	026-742200	POT/BD MTG/5K			
3.....	035-704300	BUTT/FUSH CL J52305-04500			
3.....	044-704504	SHIELD/D11 AMP			
3.....	045-703600	KNOR/KN-500BA-4/8"			
3.....	068-728105	PAN/FRT/D11 AMP			
3.....	085-705400	PROBE/COLINE 900-90-505			

ASSEMBLY LEVEL  
3885-002000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	206-2 PLUG IN	1
1	4	415-005900	206 CONTROL ED	X	1,000
2	4	000-904207	PCB/206 CONTROL		1,000
2	4	021-702700	TRN NPN 2N4265	.35W B MOT	2,000
2	4	022-706000	DIO SCHT MED101	.4A B MOT	2,000
2	4	023-029200	CAP 22MF 15V 10%	TANT G KEM	1,000
2	4	023-700100	CAP 100PF 500V 5%	MICA R ARC	2,000
2	4	023-700300	CAP 500PF 500V 5%	MICA R ARC	1,000
2	4	023-700500	CAP 250PF 500V 5%	MICA R ARC	1,000
2	4	023-702400	CAP .01MF 100V 20%	CERM R SPG	5,000
2	4	023-710600	CAP 10PF 1000V 40%	CERM R CLB	1,000
2	4	023-711100	CAP 4.7MF 100V 10%	TANT G KEM	4,000
2	4	023-715100	CAP .05MF 50V	CERM R ARC	5,000
2	4	024-715900	CON/16F DIP/SOL AMP	640358-3	2,000
2	4	024-734000	CONN/IC SOC/20 PIN		1,000
2	4	025-727000	SW/ROT/32 POS.		1,000
2	4	100-700700	RES NET/CSPIOE-01-502J		2,000
2	4	108-010000	RES 40	.05% 1/4W	3,000
2	4	108-010200	RES 4K	.05% 1/4W	2,000
2	4	108-010300	RES 10K	.05% 1/4W	1,000
2	4	108-015200	RES 1.5K	.05% 1/4W	1,000
2	4	108-022100	RES 220	.05% 1/4W	1,000
2	4	108-022200	RES 2.2K	.05% 1/4W	2,000
2	4	108-033200	RES 3.3K	.05% 1/4W	1,000
2	4	108-047000	RES 47	.05% 1/4W	2,000
2	4	108-047100	RES 470	.05% 1/4W	1,000
2	4	108-068100	RES 680	.05% 1/4W	1,000
2	4	134-701803	IC/7400N 2-NAND		1,000
2	4	134-710103	IC/7416N SHIFT REGISTER		2,000
2	4	134-714203	IC/74S74N FLIP-FLOP		5,000
2	4	134-712803	IC/74LS00N 2-NAND		4,000
2	4	134-712903	IC/74LS04N HEX INVERTER		2,000
2	4	134-713203	IC/74LS74N FLIP-FLOP		14,000
2	4	134-713703	IC/74LS253N MULTIPLEXER		4,000
2	4	134-713900	IC/MR5009F MOS LST		1,000
2	4	134-715503	IC/74LS153N MULTIFLEXER		2,000
2	4	134-716203	IC/74S175N REGISTER		1,000
2	4	134-717403	IC/74S287N FROM		1,000
2	4	134-717903	IC/74LS86N 2-XOR		1,000
2	4	134-718803	IC/74LS175N REGISTER		6,000
2	4	134-719403	IC/74196N COUNTER		1,000
2	4	134-719403	IC/74LS151N MULTIFLEXER		3,000
2	4	134-719503	IC/74S286N FROM		1,000
2	4	134-720403	IC/74LS02N 2-NOR		2,000
2	4	134-722703	IC/74LS08N 2-AND		2,000
2	4	134-724903	IC/74S169 COUNTER		1,000
2	4	134-728803	IC/74S472 FROM		1,000
2	4	134-730903	IC/74LS367N HEX DRIVER		4,000
2	4	134-731603	IC/74LS251N MULTIFLEXER		1,000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG Dwg	VENDOR U/M	QTY
385-002000	2.....	194-704600	CRYSTAL/HC18/U 40 MHZ .005	EA	1,000	4
	1.....	445-006000	206 STORAGE CONTROL BD	EA	1,000	
	2.....	000-900806	FCB/206 STORAGE CONTROL	EA	1,000	
	2.....	025-726900	SW/PB/GREEN LED	EA	1,000	
	2.....	025-733800	SW/PB 4P2TM SH SIRUL/RED	EA	2,000	
	2.....	035-704800	BUTT/RECT SH SIRUL/BLK W/RED	EA	2,000	
	2.....	035-708700	CBL/20 COND/AP 922531-20-99-3	EA	1,000	
	2.....	108-022100	RES 220 05% 1/4W	EA	3,000	
	2.....	108-022200	RES 2.2K 05% 1/4W	EA	3,000	
	2.....	108-022300	RES 22K 05% 1/4W	EA	3,000	
	1.....	445-006100	206 MEMORY BD	EA	1,000	
	2.....	000-901404	PCB/206 MEMORY	EA	1,000	
	2.....	009-711200	SPCR/41/2" RICHCO 1CBS-8N	EA	2,000	
	2.....	023-711100	CAP 4.7MF 40V 10% TANT 6 KEM	EA	5,000	
	2.....	023-715100	CAP .05MF 50V CERM R ARC	EA	5,000	
	2.....	134-717903	IC/74LS86N 2-XOR	EA	1,000	
	2.....	134-722403	IC/74LS139N MULTIPLEXER	EA	1,000	
	2.....	134-723903	IC/74LS257 MULTIPLEXER	EA	1,000	
	2.....	134-724903	IC/74S169 COUNTER	EA	3,000	
	2.....	134-725103	IC/2102LIDCIP	EA	48,000	
	2.....	045-006200	206 MOTHER BD	EA	1,000	
	2.....	000-901103	PCB/206 MOTHER	EA	1,000	
	2.....	045-702700	PIN/350036-2 26.18 GA	EA	3,000	
	2.....	024-706200	TRN FET/JN E230 40V .35W B SLX	EA	2,000	
	2.....	022-703800	DIO ZENR 4N5234 6.2V .5W G MOT	EA	1,000	
	2.....	022-709400	DIO TRRF 1N4150 50V .2A G TXI	EA	3,000	
	2.....	023-700200	CAP 1000FF 300V 5% MICA R ARC	EA	2,000	
	2.....	023-700300	CAP 500PF 500V 5% MICA R ARC	EA	1,000	
	2.....	023-702400	CAP .04MF 100V 20% CERM R SFG	EA	1,000	
	2.....	023-706900	CAP .50MF 50V ALUM G SFG	EA	1,000	
	2.....	023-708000	CAP 3.3PF 1000V 15% CERM R CLB	EA	2,000	
	2.....	023-741100	CAP 4.7MF 40V 10% TANT 6 KEM	EA	1,000	
	2.....	023-743500	CAP 4.7MF 50V 10% TANT 6 KEM	EA	4,000	
	2.....	023-745100	CAP .05MF 50V CERM R ARC	EA	4,000	
	2.....	024-733200	CONN/6M HDR/SOL AMP 9-350259-2	EA	1,000	
	2.....	024-737200	CONN/56PIN/AMP 67907.3	EA	2,000	
	2.....	024-744700	CONN/80F EDG/SOL MCP MP0125-40	EA	2,000	
	2.....	108-010300	RES 10K 05% 1/4W	EA	2,000	
	2.....	108-010400	RES 100K 05% 1/4W	EA	1,000	
	2.....	108-010500	RES 1M 05% 1/4W	EA	1,000	
	2.....	108-012300	RES 12K 05% 1/4W	EA	2,000	
	2.....	108-015300	RES 15K 05% 1/4W	EA	2,000	
	2.....	108-018300	RES 18K 05% 1/4W	EA	2,000	
	2.....	108-022000	RES 22 05% 1/4W	EA	4,000	
	2.....	108-022100	RES 220 05% 1/4W	EA	1,000	
	2.....	108-022300	RES 22K 05% 1/4W	EA	3,000	
	2.....	108-027100	RES 270 05% 1/4W	EA	1,000	
	2.....	108-033100	RES 330 05% 1/4W	EA	2,000	

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	CITY	4
885-002000			206-2 PLUG IN				
	2 . . . . .	108-033200	RES 3.3K 0.5% 1/4W		EA	2,000	
	2 . . . . .	108-047100	RES 470 0.5% 1/4W		EA	1,000	
	2 . . . . .	108-047300	RES 47K 0.5% 1/4W		EA	2,000	
	2 . . . . .	108-068100	RES 680 0.5% 1/4W		EA	1,000	
	2 . . . . .	108-068200	RES 6.8K 0.5% 1/4W		EA	1,000	
	2 . . . . .	108-082200	RES 8.2K 0.5% 1/4W		EA	2,000	
	2 . . . . .	134-714900	TC/AM318H OPAMP		EA	2,000	
	2 . . . . .	134-721703	TC/TCL820CN3		EA	1,000	
	2 . . . . .	134-713203	IC/74LS74N FLIP-FLOP		EA	2,000	
	2 . . . . .	134-71423N	MONOSTABLE		EA	1,000	
	2 . . . . .	134-723903	IC/74LS257 MULTIFLEXER		EA	1,000	
	4 . . . . .	415-006300	206 DIL EXTENDER BD		EA	1,000	
	2 . . . . .	000-902304	PUB/EXTENDER BD/PLUG-IN	X	EA	1,000	
	2 . . . . .	024-712500	CONN/206 EDG/SOL CIN 2521030160		EA	1,000	
	2 . . . . .	465-001600	206 FRONT PANEL		EA	1,000	
	2 . . . . .	010-700900	NUT/BL ANODT W-NU-47D		EA	1,000	
	2 . . . . .	011-721607	BRKT/MOTHER BD/EXPL	X	EA	1,000	
	2 . . . . .	014-723401	BRIKT/206 RETAINER	X	EA	1,000	
	2 . . . . .	020-701608	CHASSIS/FLUG-IN		EA	1,000	
	2 . . . . .	022-744500	910 LEDG 4060 1.9V 10MA M 4NM		EA	1,000	
	2 . . . . .	023-714300	CAP .1MF 250U 40% PLYE R SEC		EA	1,000	
	2 . . . . .	024-058900	CON/4F CXL/SOL APH F-US 657-9		EA	1,000	
	2 . . . . .	025-718000	SW/G + K #8531		EA	1,000	
	2 . . . . .	025-727600	SW/C13/#1202/2 FQLE/2-5STA		EA	3,000	
	2 . . . . .	025-727900	SW/GF-126-FQ-020-18		EA	3,000	
	2 . . . . .	026-710000	POI/100K/C.L. B0147-0134		EA	1,000	
	2 . . . . .	034-713300	GUIDE/SCANE #11633-4		EA	2,000	
	2 . . . . .	045-703200	KNOB/KPN-500BA/4/8		EA	3,000	
	2 . . . . .	045-703500	KNOB/KPN-900BA-1/4"		EA	1,000	
	2 . . . . .	045-703600	KNOB/NN-500BA-1/4"		EA	1,000	
	2 . . . . .	051-701000	BUMPER/ΣJ5004X	X	EA	3,000	
	2 . . . . .	068-727709	FAN/206 FRONT	X	EA	1,000	
	2 . . . . .	068-740800	FAN/206 FRONT SUB	X	EA	1,000	
	2 . . . . .	085-900100	CBL/20 COND/PLUG-IN FRONT	X	EA	4,000	
	2 . . . . .	093-702400	FASTRNR/SCR Σ 32 X 1/4" BLK		EA	4,000	
	4 . . . . .	475-001900	206 FINL ASSEMBLY		EA	1,000	
	2 . . . . .	034-714300	GUIDE/W/TAPE		EA	3,000	
	2 . . . . .	042-711001	COVER/206 AMP DIVIDER	X	EA	1,000	
	2 . . . . .	044-705001	SHIELD/206 MEMORY BD	X	EA	1,000	
	1 . . . . .	845-000200	206 DIL AMP/ADC		EA	2,000	
	2 . . . . .	415-005800	206 ADC BD		EA	2,000	
	3 . . . . .	000-900905	PCB/206 ADC		EA	2,000	
	3 . . . . .	021-701800	TRN PNP 2N3905 40V .35W B MOT		EA	4,000	
	3 . . . . .	021-702200	TRN NPN 2N3903 40V 1W B MOT		EA	16,000	
	3 . . . . .	024-704700	TRN NPN 2N5224 12V .35W B MOT		LA	10,000	
	3 . . . . .	024-706300	TRN PNP 2N3906 40V .625W B TXI		EA	30,000	
	3 . . . . .	022-714600	DIO TRRF 3N4376 10V .05A G FCH		LA	92,000	
	3 . . . . .	022-714100	DIO SCTR HSC1001 60V15MAG HPC		EA	32,000	

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
885-002000		206-2 PLUG IN				1
		023-029200	CAP 22MF 15V 10%	TANT 6 KEM	4,000	
		023-701600	CAP 2.2MF 20V 10%	TANT 6 KEM	4,000	
		023-702400	CAP .01MF 100V 20%	CERM R SPG	8,000	
		023-702700	CAP .22MF 35V 10%	TANT 6 KEM	4,000	
		023-706700	CAP 390PF 500V 5%	MICA R ARC	4,000	
		023-706800	CAP 150PF 500V 5%	MICA R ARC	2,000	
		023-709100	CAP 20PF 500V 5%	MICA R ARC	8,000	
		023-7141000	CAP 22MF 35V 10%	TANT 6 KEM	2,000	
		023-7142200	CAP .022MF 200V 10%	FLYE G SPG	2,000	
		023-717800	CAP 6PF 300V 6.3%	MICA R ARC	10,000	
		023-719760	CAP 2.2MF 50V 10%	TANT 6 KEM	4,000	
		024-715900	CON/16F DIP/SOL AMP	640358-3	1.2,000	
		026-705600	POT/2K PCB DAL	784-20-202	2,000	
		026-705700	POT/5K PCB DAL	784-20-502	2,000	
		026-706200	POT/50K PCB DAL	784-20-503	10,000	
		026-707700	POT/ET 14W-200 NEFCO		10,000	
		100-700900	RES NET/7X25K/.01%		2,000	
		108-010100	RES 100 05%	1/4W	6,000	
		108-010200	RES 1K 05%	1/4W	6,000	
		108-010300	RES 10K 05%	1/4W	26,000	
		108-010400	RES 100K 05%	1/4W	6,000	
		108-015100	RES 150 05%	1/4W	2,000	
		108-015300	RES 15K 05%	1/4W	10,000	
		108-022000	RES 22 05%	1/4W	2,000	
		108-022100	RES 220 05%	1/4W	2,000	
		108-033200	RES 3.3K 05%	1/4W	8,000	
		108-039200	RES 3.9K 05%	1/4W	6,000	
		108-047000	RES 47 05%	1/4W	14,000	
		108-047200	RES 4.7K 05%	1/4W	12,000	
		108-047300	RES 47K 05%	1/4W	14,000	
		108-068200	RES 6.8K 05%	1/4W	12,000	
		124-702700	REG 5 TO 30V .5A 78MGU1C E FCH		4,000	
		124-702800	REG -2.2/-30V.5A 79MGU1C E FCH		4,000	
		134-710203	IC/74LS83N ADDER		6,000	
		134-710403	IC/74S00N 2-NAND		4,000	
		134-712803	IC/74LS00N 2-NAND		4,000	
		134-718803	IC/74LS175 REGISTER		20,000	
		134-722303	IC/74LS298N REGISTER		6,000	
		134-722703	IC/74LS08N 2-AND		4,000	
		204-001000	RES 1 01% 1/8W	PRES	2,000	
		204-100100	RES 1K 01% 1/8W	PRES	14,000	
		204-110200	RES 14K 01% 1/8W	PRES	2,000	
		204-124000	RES 124 01% 1/8W	PRES	4,000	
		204-137000	RES 137 01% 1/8W	PRES	6,000	
		204-143000	RES 143 01% 1/8W	PRES	4,000	
		204-143200	RES 14.3K 01% 1/8W	PRES	2,000	
		204-150000	RES 150 01% 1/8W	PRES	14,000	
		204-150300	RES 150K 01% 1/8W	PRES	6,000	

ASSEMBLY  
885-002000LEVEL  
COMPONENTDESCRIPTION  
206-2 PLUG IN

			ENG Dwg	VENDOR U/M	QTY
3 . . . . .	204-478000	RES 478	04%	4/8W	6,000
3 . . . . .	204-200100	RES 2K	04%	4/8W	EA 10,000
3 . . . . .	204-200200	RES 20K	04%	4/8W	EA 2,000
3 . . . . .	204-224100	RES 2.21K	04%	4/8W	EA 2,000
3 . . . . .	204-249200	RES 24.9K	04%	4/8W	EA 44,000
3 . . . . .	204-2667900	RES 26.7	04%	4/8W	PRES
3 . . . . .	204-274100	RES 2.74K	04%	4/8W	PRES
3 . . . . .	204-346100	RES 3.46K	04%	4/8W	PRES
3 . . . . .	204-374100	RES 3.74K	04%	4/8W	PRES
3 . . . . .	204-374200	RES 37.4K	04%	4/8W	PRES
3 . . . . .	204-402000	RES 402	04%	4/8W	PRES
3 . . . . .	204-499000	RES 499	04%	4/8W	PRES
3 . . . . .	204-499100	RES 4.99K	04%	4/8W	PRES
3 . . . . .	204-750100	RES 7.5K	04%	4/8W	PRES
3 . . . . .	204-806100	RES 8.06K	04%	4/8W	PRES
3 . . . . .	204-887200	RES 88.7K	04%	4/8W	PRES
2 . . . . .	415-006400	206 DIL AMP BD			EA 10,000
2 . . . . .	000-901004	PCB/206 DIL AMP			EA 24,000
3 . . . . .	021-704700	TRN RPN 3N5224 42V			EA 24,000
3 . . . . .	021-706300	TRN PNP 2N3906 40V			EA 24,000
3 . . . . .	023-029200	CAP 2.2MF 450 10%			EA 24,000
3 . . . . .	023-700100	CAP 1000F 500V 5%			EA 4,000
3 . . . . .	023-700200	CAP 1000FF 300V 5%			EA 4,000
3 . . . . .	023-702400	CAP .01MF 100V 20%			EA 8,000
3 . . . . .	023-702800	CAP .68MF 35V 10%			EA 24,000
3 . . . . .	023-706800	CAP 150PF 500V 5%			EA 24,000
3 . . . . .	023-710200	CAP 5.5 T9 48PF 50V			EA 20,000
3 . . . . .	023-710600	CAP 10PF 1000V 10%			EA 4,000
3 . . . . .	023-714300	CAP .1MF 250V 16%			EA 24,000
3 . . . . .	023-714400	CAP .0022MF 200V 10%FLYVE 6 SP6			EA 24,000
3 . . . . .	023-712100	CAP .01MF 200V 10%FLYVE 6 SP6			EA 4,000
3 . . . . .	024-712500	CON/20F EDg/SOL CIN 2521030160			EA 24,000
3 . . . . .	025-726700	SM/PB-15/3 STA/6 FOLIE C.A.			EA 6,000
3 . . . . .	025-726800	SM/PB-10/3 STA/2 FOLIE C.A.			EA 2,000
3 . . . . .	026-705500	POT/4K PCB DOL 784-20-102			EA 4,000
3 . . . . .	026-707700	POT/ET 14W 200 MFGD			EA 6,000
3 . . . . .	026-709800	POT/10K/MFGD ET14-10R			EA 6,000
3 . . . . .	026-709900	POT-25/MFGD ET14-25			EA 4,000
3 . . . . .	108-040100	RES 400	05%	4/4W	EA 14,000
3 . . . . .	108-010400	RES 100N	05%	4/4W	EA 4,000
3 . . . . .	108-022200	RES 2.2K	05%	1/4W	EA 4,000
3 . . . . .	108-022300	RES 22K	05%	1/4W	EA 24,000
3 . . . . .	108-033400	RES 330K	05%	1/4W	EA 24,000
3 . . . . .	108-047200	RES 4.7K	05%	1/4W	EA 6,000
3 . . . . .	108-068100	RES 680	05%	1/4W	EA 24,000
3 . . . . .	108-082200	RES 8.2K	05%	1/4W	EA 24,000
3 . . . . .	134-730600	IC/CA3140S OFAMP			EA 10,000
3 . . . . .	201-100000	RES 100	01%	1/8W	PRES

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	QTY
885-002000		206-2 PLUG IN		1
3.....		204-400200	RES 10K 01% 473U	PRES
3.....		204-400300	RES 100K 01% 1/8W	PRES
3.....		204-400400	RES 1M 01% 1/8W	PRES
3.....		204-105200	RES 10..5K 01% 1/8W	PRES
3.....		204-169200	RES 16..9K 01% 1/8W	PRES
3.....		204-249300	RES 249K 01% 1/8W	PRES
3.....		201-374100	RES 3.74K 01% 1/8W	PRES
3.....		201-374200	RES 37.4K 01% 1/8W	PRES
3.....		201-499100	RES 4.99K 01% 1/8W	PRES
3.....		201-825100	RES 8.25K 01% 1/8W	PRES
3.....		201-909300	RES 909K 01% 1/8W	PRES
3.....		214-422100	RES 4.22K .1% 1/8W	PRES
2.....		475-002100	206 DIL AMP FINAL ASSEMBLY	
3.....		024-058900	CON/4F CXL/SOL APH F-U6 657-U	
3.....		025-705500	SW/SL 2P2T CW GF-126-620-28	
3.....		026-712200	POT/5K PCB ERS 83C1D-E20-J13-5	EA
3.....		035-704300	BUTT/PUSH CL J52305-04500	EA
3.....		044-704504	SHIELD/DIA 6MP	X
3.....		045-703600	KNOB/KN-500EA-1/8"	EA
3.....		068-728108	FAN/206 DIL FRONT	X
3.....		085-705400	PROBE/COLINE 900-90-505	EA

685-001600

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG Dwg	VENDOR U/M	QTY
685-001600		2090-2 EXPLORER II				1
	1	445-004900	2090 MAIN FRAME BD			1,000
	2	000-900301	PCB/MAIN FRAME/EXP SERIES	X	EA	1,000
	2	021-702500	TRN NPN 2N3302 30V .36W A MOT	EA	2,000	
	2	022-701400	DIO GERM 4N270 30V .2A 0 IIT	EA	5,000	
	2	023-701600	CAP 2.2MF 200V 10% TANT 0 KEM	EA	2,000	
	2	023-702400	CAP .01MF 100V 20% DUTK R SP6	EA	2,000	
	2	023-711100	CAP 4.7MF 10V 10% TANT 0 KEM	EA	9,000	
	2	023-711300	CAP .1MF 250V 10% FLYE R SEC	EA	7,000	
	2	024-715900	CONN/16F DIP/SOL AMP 640358-3	EA	1,000	
	2	024-721300	CONN/2AF DIP/SOL AMP 640361-3	EA	2,000	
	2	024-724800	CONN/AOF DIP/SOL AMP 640379-3	EA	3,000	
	2	024-734000	CONN/IC SOC/20 PTN	EA	5,000	
	2	024-737200	CONN/56PTN/AMP 67907.3	EA	1,000	
	2	026-705500	FOT/1K PCB DAL 784-20-102	EA	2,000	
	2	100-700700	RES NET/CSP10E-01-502J	EA	3,000	
	2	108-010300	RES 10K 05% 1/4W	EA	1,000	
	2	108-010400	RES 100K 05% 1/4W	EA	1,000	
	2	108-039100	RES 300 05% 1/4W	EA	6,000	
	2	108-047200	RES 4.7K 05% 1/4W	EA	11,000	
	2	108-047300	RES 47K 05% 1/4W	EA	4,000	
	2	121-700900	REG -150 .35A 79MISAC E FCH	EA	1,000	
	2	134-705703	IC/741CP			2,000
	2	134-712903	IC/74LS04N HEX INVERTER	EA	1,000	
	2	134-713203	IC/74LS74N FLIP-FLOP	EA	6,000	
	2	134-713703	IC/74LS253N MULTIPLEXER	EA	1,000	
	2	134-717403	IC/74S287N FROM	EA	1,000	
	2	135-748503	IC/74S182N CARRY LOOKAHEAD	EA	1,000	
	2	134-720503	IC/74LS174N REGISTER	EA	4,000	
	2	134-724500	IC/DAC80-CBI-V 42BIT DAC	EA	2,000	
	2	134-724903	IC/74S169 COUNTER	EA	3,000	
	2	134-728803	IC/74S472 PROM	EA	5,000	
	2	134-730903	IC/74LS367N HEX DRIVER	EA	6,000	
	2	134-731003	IC/74LS138N MULTIPLEXER	EA	3,000	
	2	134-731603	IC/74LS251N MULTIPLEXER	EA	2,000	
	2	134-732100	IC/96L02 MONOSTABLE	EA	1,000	
	2	134-734300	IC/2901A 4BIT SLICE	EA	3,000	
	1	415-005000	2090 BLANKING BD	X	EA	1,000
	2	000-900202	FCB/2090 BLANKING		EA	1,000
	2	015-706400	PIN/350665-2 AMP SPOOL	X	EA	12,000
	2	017-704200	LABEL/HI VOLT/EXPL	X	EA	4,000
	2	021-700600	TRN NPN 2N2494 60V .36W A NOT	EA	4,000	
	2	021-702200	TRN NPN 2N3903 40V 1W B MOT	EA	1,000	
	2	021-711100	TRN NPN MPSU10 300V 1W E MOT	EA	4,000	
	2	021-711400	TRN FETP M143 30V .22W A SLX	EA	1,000	
	2	022-700800	DIO RECT 4N4004 400V 1A 6 TXI	EA	1,000	
	2	022-711600	DIO TRRF 1N4376 10V .05A 6 FCH	EA	1,000	
	2	023-702400	CAP .01MF 100V 20% CERM R SP6	EA	2,000	
	2	023-707500	CAP 6.8MF 35V 10% TANT 0 KEM	EA	1,000	

ASSEMBLY  
885-001600

2090-2 EXPLORER TI

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
2.....	2.....	023-741400	CAP 4.7MF 40V 10% TANT 6 KEM	EA	1,000	
2.....	2.....	023-741300	CAP .1MF 250V 10% FLYE R SEC	EA	6,000	
2.....	2.....	023-719400	CAP .01MF 3000V 20% CERM R SFG	EA	2,000	
2.....	2.....	024-719900	CON/15F REC/CRP AMP 4-350244-9	EA	1,000	
2.....	2.....	024-724600	CON/10F REC/TDP MMN 3473-6000	EA	1,000	
2.....	2.....	024-734900	CON/6M HDR/SOL BRG 65532-108	EA	2,000	
2.....	2.....	024-735200	CONN/10PIN/3M3474-0001T	EA	1,000	
2.....	2.....	026-705700	POT/5K PCB DAL 784-20-502	EA	5,000	
2.....	2.....	026-705900	POT/500K PCB DAL 784-20-504	EA	1,000	
2.....	2.....	026-706400	POT/1MEG PCB DAL 784-20-105	EA	1,000	
2.....	2.....	032-700600	INSUL/TRANSIST FAD	EA	4,000	
2.....	2.....	042-711400	COVER/BLANK-2090	X	4,000	
2.....	2.....	042-712600	COVER/BLANKING BD	EA	1,000	
2.....	2.....	105-022300	RES 22K 05% 2W	EA	2,000	
2.....	2.....	105-027300	RES 27K 05% 2W	EA	2,000	
2.....	2.....	108-010500	RES 1M 05% 1/4W	EA	1,000	
2.....	2.....	108-022200	RES 2.2K 05% 1/4W	EA	1,000	
2.....	2.....	108-022300	RES 22K 05% 1/4W	EA	2,000	
2.....	2.....	108-022400	RES 220K 05% 1/4W	EA	1,000	
2.....	2.....	108-047100	RES 470 05% 1/4W	EA	2,000	
2.....	2.....	108-047200	RES 4.7K 05% 1/4W	EA	1,000	
2.....	2.....	108-056000	RES 56 05% 1/4W	EA	1,000	
2.....	2.....	134-729400	IC/6N137	PRES	1	
2.....	2.....	201-100300	RES 100K 01% 1/8W	PRES	2,000	
2.....	2.....	201-127300	RES 1.27K 01% 1/8W	PRES	3,000	
2.....	2.....	201-165200	RES 16.5K 01% 1/8W	PRES	1,000	
2.....	2.....	201-200200	RES 20K 01% 1/8W	PRES	3,000	
2.....	2.....	201-200300	RES 200K 01% 1/8W	PRES	4,000	
2.....	2.....	201-243200	RES 24.3K 01% 1/8W	PRES	1,000	
2.....	2.....	201-249100	RES 2.49K 01% 1/8W	PRES	1,000	
2.....	2.....	201-499200	RES 49.9K 01% 1/8W	PRES	1,000	
2.....	2.....	201-750200	RES 75K 01% 1/8W	PRES	1,000	
2.....	2.....	201-976200	RES 97.6K 01% 1/8W	PRES	1,000	
2.....	2.....	415-007000	2090 4K MEMORY BD	EA	1,000	
2.....	2.....	000-900402	P.C.B./2090 MEMORY 4K	EA	1,000	
2.....	2.....	023-702400	CAP .01MF 100V 20% CERM R SFG	EA	4,000	
2.....	2.....	023-711100	CAP 4.7MF 10V 10% TANT 6 KEM	EA	13,000	
2.....	2.....	024-734400	CON/18F DIP/SOL AMP 640359-3	EA	1,000	
2.....	2.....	024-737200	CONN/56PIN/AMP 67907.3	EA	1,000	
2.....	2.....	100-700700	RES NET/CSPIOE-01-502.J	EA	1,000	
2.....	2.....	108-047100	RES 470 05% 1/4W	EA	1,000	
2.....	2.....	134-723003	IC/74LS14N HEX INVERTER	EA	4,000	
2.....	2.....	134-723903	IC/74LS257 MULTIPLEXER	EA	3,000	
2.....	2.....	134-730903	IC/74LS367N HEX DRIVER	EA	4,000	
2.....	2.....	134-736803	IC/74LS374N REGISTER	EA	3,000	
2.....	2.....	134-736903	IC/74LS24N OCTAL BUFFER	EA	13,000	
2.....	2.....	134-742300	IC/2141-2	EA	1,000	
2.....	2.....	415-007200	2090-2 INNER CONN BD 4K	EA	1,000	

## ASSEMBLY 885-001600 INDENTED PARTS LIST

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
2 . . . . .	2 . . . . .	000-900500	PCB/INTERFACE ED/2090	X		4 . 000
2 . . . . .	024-725000	CON/42M HDR/SOL AMP 9-350264-1		EA	1 . 000	
2 . . . . .	085-707800	OBL/50 COND/4.3 IN./SPEC		EA	1 . 000	
1 . * . . . .	465-001400	2090 FRONT PANEL	X	EA	1 . 000	
2 . * . . . .	011-723001	BRKT/2090 STRAIN RELIEF	X	EA	1 . 000	
2 . * . . . .	015-706300	FIN/350663-6 AMP SPOOL		EA	4 . 000	
2 . * . . . .	017-704600	LABEL/LOGO/JEWEL		EA	1 . 000	
2 . * . . . .	022-714800	DIO LED/ FLU340 2.3U20MA L FCH		EA	1 . 000	
2 . * . . . .	024-721700	CON/4M REC/CRP AMP 1-350233-9		EA	1 . 000	
2 . * . . . .	025-745500	SW/PA166-014-OAA		EA	2 . 000	
2 . * . . . .	025-718100	SW/7215J612ZCE-2 C&K		EA	2 . 000	
2 . * . . . .	025-748500	SW/LB 2P21 L.L. 01-700155		EA	1 . 000	
2 . * . . . .	025-721300	SW/Toggle #LEH-423		EA	2 . 000	
2 . * . . . .	025-727100	SW/845773-SK-4		EA	1 . 000	
2 . * . . . .	025-727200	SW/C & K SPDT 8421-JB2		EA	1 . 000	
2 . * . . . .	025-734300	SW/RO 4PL2-7PS CL PA166-025		EA	1 . 000	
2 . * . . . .	045-703301	KNOB/KX-42322 1/8"		EA	4 . 000	
2 . * . . . .	068-726905	FAN/2090 FFONT BAY 2	X	EA	1 . 000	
2 . * . . . .	068-741001	FAN/2090 FRONT SUB BAY 2	X	EA	1 . 000	
2 . * . . . .	085-900000	CBL/26 COND/2090 FRONT	X	EA	1 . 000	
2 . * . . . .	093-702400	FASTNR/SCR 6-32 X 1/4" BLK		EA	4 . 000	
4 . * . . . .	475-001400	2090-2 FINAL ASSY		EA	1 . 000	
2 . * . . . .	011-724500	BRKT/FRAME GROUND/2090		EA	1 . 000	
2 . * . . . .	017-704301	LABEL/2090-2	X	EA	1 . 000	
2 . * . . . .	024-7227000	CON/6M REC/CRP AMP 4-350234-9		EA	1 . 000	
2 . * . . . .	026-707800	POT/BAG14-6670C.L. 250K		EA	1 . 000	
2 . * . . . .	042-710802	COVER/BOTTOM/EXPL II	X	EA	1 . 000	
2 . * . . . .	042-712500	COVER/LINE VOLTAGE		EA	1 . 000	
2 . * . . . .	042-712702	COVER/L SIDE-2090-2	X	EA	2 . 000	
2 . * . . . .	051-700300	BUMPER/5025		LA	10 . 000	
2 . * . . . .	085-703800	CORD/A/C/LINE P2392 SW		EA	1 . 000	
2 . * . . . .	164-700500	GRAT/BLUE/EXPL	X	EA	1 . 000	
2 . * . . . .	268-703004	BEZEL/EXP SERIES 3	X	EA	1 . 000	
2 . * . . . .	268-704200	MECH MISC/TILT STAND/O"		EA	1 . 000	
1 . * . . . .	475-001600	2090-2 CABINET ASSY		CA	1 . 000	
2 . * . . . .	010-701500	NUT/SIMURE -.860" #8-32	X	EA	1 . 000	
2 . * . . . .	024-740300	CONN/AMP 87492-3/2PIN		EA	1 . 000	
2 . * . . . .	027-700600	C.R.T./32D14GH/AMPEREX		EA	1 . 000	
2 . * . . . .	034-714701	RAIL/TOP CENTER/EXPL.	X	EA	1 . 000	
2 . * . . . .	034-714803	RAIL/SIDE EXPL		EA	2 . 000	
2 . * . . . .	034-714901	RAIL/CONN/EXPL	X	EA	2 . 000	
2 . * . . . .	034-715401	RAIL/PLUG IN	X	EA	1 . 000	
2 . * . . . .	034-716200	RAIL/EXP II SUPPORT	X	EA	1 . 000	
2 . * . . . .	044-704305	SHIELD/2090 CRT	X	EA	1 . 000	
2 . * . . . .	049-700100	HANDLE/VINYLINE		EA	4 . 000	
1 . * . . . .	129-900101	FRAME/2090 ROUNDED END		EA	1 . 000	
2 . * . . . .	645-000400	2090 H.F. POWER SUPPLY		EA	1 . 000	
1 . * . . . .	415-005300	2090 POWER SUPPLY BD		EA	1 . 000	

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG Dwg	VENDOR I.D.	QTY
885-001600		2090-2 EXPLORER II		X		1.
	3.....	000-900004	PCB/2090 REGULATOR			1.000
	3.....	006-701400	WASH/NO. J TEFLON	EA	EA	2.000
	3.....	011-716401	BRKT/H.V. XFORMER 60HZ	EA	EA	1.000
	3.....	011-720900	BRKT/TINTEN. FOCUS/2090	EA	EA	1.000
	3.....	011-721000	BRKT/PWR SPLY MTG/2090	EA	EA	2.000
	3.....	011-723101	BRKT/HI VOLT XFORMER/EXPL	EA	EA	1.000
	3.....	015-706400	FIN/350665-2 AMP SPOOL	EA	EA	30.000
	3.....	017-704200	LABEL/HI VOLT/EXPL	X	EA	6.000
	3.....	019-706000	XFORMER/ITA-1552-44	EA	EA	1.000
	3.....	019-707000	XFORMER/HV WINDING/EXPL2	X	EA	1.000
	3.....	021-703800	TRN NPN 2N5978 60V 75W	E MOT	EA	2.000
	3.....	021-708800	TRN NPN 2N5301 40V 200W	D MOT	EA	1.000
	3.....	022-700800	DIO RECT 1N4004 400V 1A	G TXI	EA	6.000
	3.....	022-705100	DIO ZENR 1N5268 82V .5W	G MOT	EA	1.000
	3.....	022-706900	DIO TRRF FM50 5KV .01A	G SEM	EA	2.000
	3.....	022-707000	DIO TRRF S2F 200V 1A	G SEM	EA	5.000
	3.....	022-711900	DIO BRID VE48X 400V 1A	C VAR	EA	1.000
	3.....	023-029200	CAP 22MF 15V 10%	TANT G KEM	EA	1.000
	3.....	023-700200	CAP 1000PF 300V 5%	MICA R ARC	EA	1.000
	3.....	023-702800	CAP .68MF 35V 10%	TANT G KEM	EA	1.000
	3.....	023-704700	CAP 1MF 35V 10%	TANT G KEM	EA	2.000
	3.....	023-706900	CAP 50MF 50V	ALUM G SPG	EA	1.000
	3.....	023-707300	CAP 1MF 200V 10%	MYLR G TRW	EA	2.000
	3.....	023-714200	CAP 220MF 10V 10%	TANT G KEM	EA	1.000
	3.....	023-713500	CAP 4.7MF 50V 10%	TANT G KEM	EA	2.000
	3.....	023-719400	CAP .01MF 300V 20%	CERM R SPG	EA	5.000
	3.....	023-719700	CAP 2.2MF 50V 10%	TANT G KEM	EA	5.000
	3.....	024-719600	CON/15M HDR/SOL AMP	9-350268-1	EA	1.000
	3.....	024-722500	CON/12F REC/CRP AMP	1-350243-9	EA	2.000
	3.....	024-723400	CON/2M HDR/SOL AMP	9-350360-1	EA	1.000
	3.....	024-726900	CON/6F REC/CRP AMP	1-350241-9	EA	1.000
	3.....	026-705400	POT/500 PCB DAL	784-20-501	EA	5.000
	3.....	026-706000	POT/20K PCB DAL	784-20-203	EA	1.000
	3.....	026-706500	POT/BRNS 500K		EA	2.000
	3.....	032-700800	INSUL/DIODE		EA	1.000
	3.....	032-700900	INSUL/DIODE		EA	7.000
	3.....	044-704600	SHIELD/H.V. EXPL		EA	1.000
	3.....	067-700300	CORE/E1960-S-01A		EA	1.000
	3.....	070-704000	FUSE/.75 A/276.750 LITTLEFUSE		EA	2.000
	3.....	079-700000	THERMOS/165 DEG 7BT16B10		EA	1.000
	3.....	098-700200	HT SNK/207CB W		EA	1.000
	3.....	098-704000	HT SNK/EXPL P.S.		EA	1.000
	3.....	098-704300	HT SNK		EA	1.000
	3.....	101-010500	RES 1M	10% 1/2W	EA	2.000
	3.....	101-022500	RES 2.2M	10% 1/2W	EA	2.000
	3.....	105-012100	RES 120	05% 2W	EA	1.000
	3.....	106-703500	RES 1	05% 1W	EA	1.000
	3.....	106-703600	RES 200M	10% 1W	EA	1.000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG Dwg	VENDOR U/M	QTY
885-001600			2090-2 EXPLORER II	1		
	3 . . . . .	108-010300	RES 40K 05% 1/4W		EA	1,000
	3 . . . . .	108-015300	RES 15K 05% 1/4W		EA	1,000
	3 . . . . .	108-022100	RES 220 05% 1/4W		EA	2,000
	3 . . . . .	108-027100	RES 270 05% 1/4W		EA	1,000
	3 . . . . .	108-033200	RES 3-3K 05% 1/4W		EA	1,000
	3 . . . . .	121-702100	REG 5 TO 30V 1A 78GUIC E FUCH		EA	1,000
	3 . . . . .	121-702300	REG 1,2 TO 37V 1.5A 317T E NAT		EA	2,000
	3 . . . . .	121-702400	REG -1,2 TO -37V 1.5A 337T E NAT		EA	2,000
	3 . . . . .	121-702600	REG 2 TO 38V ,5A LAS1000 A LAM		EA	1,000
	3 . . . . .	201-100300	RES 100K 01% 1/8W PRES		EA	1,000
	3 . . . . .	201-124000	RES 1.24 01% 1/8W PRES		EA	2,000
	3 . . . . .	201-200100	RES 2K 01% 1/8W PRES		EA	1,000
	3 . . . . .	201-200300	RES 200K 01% 1/8W PRES		EA	1,000
	3 . . . . .	201-221100	RES 2.21K 01% 1/8W PRES		EA	1,000
	3 . . . . .	201-249000	RES 249 01% 1/8W PRES		EA	2,000
	3 . . . . .	201-249100	RES 2.49K 01% 1/8W PRES		EA	1,000
	3 . . . . .	201-301000	RES 304 01% 1/8W PRES		EA	1,000
	3 . . . . .	201-365000	RES 365 01% 1/8W PRES		EA	1,000
	3 . . . . .	201-479100	RES 4.99K 01% 1/8W PRES		EA	2,000
	3 . . . . .	201-604000	RES 604 01% 1/8W PRES		EA	1,000
	3 . . . . .	201-619200	RES 61.9K 01% 1/8W PRES		EA	1,000
	3 . . . . .	201-825000	RES 825 01% 1/8W PRES		EA	1,000
2 . . . . .	465-001200	2090 REAR PANEL BAY 2				
3 . . . . .	015-706300	PIN/350663-6 AMP SPOOL				X
3 . . . . .	015-706400	PIN/350665-2 AMP SPOOL				X
3 . . . . .	019-708700	XFORMER/D346				
3 . . . . .	024-714500	CON/SF CIR/SOL SWC 61H45F				
3 . . . . .	024-711600	CON/SM CIR/SOL SWC 12CL5M				
3 . . . . .	024-721400	CON/1F CXL/SOL APH 31-010				
3 . . . . .	024-721600	CON/4F REC/CRP AMP 1-350240-9				
3 . . . . .	024-723300	CON/2F REC/CRP AMP 1-350354-9				
3 . . . . .	024-724600	CON/4OF REC/TDP MMM 3473-6000				
3 . . . . .	024-726900	CON/6F REC/CRP AMP 1-350241-9				
3 . . . . .	024-730800	CONN/15 PIN 1-350237-9				
3 . . . . .	025-727500	SW/CW/GF-642				
3 . . . . .	068-726608	FAN/2090 REAR BAY 2				
3 . . . . .	070-704100	FUSE/348890 BODY				
3 . . . . .	070-701200	FUSE/348007 CAP				
3 . . . . .	102-700200	MOVIDSTOR/V130LA10A				
3 . . . . .	114-701800	FLTR/6 AMP 6H9 CORCOM				
2 . . . . .	465-001300	2090 REAR PANEL BAY 4				
3 . . . . .	415-005200	2090 CAP BD F.S. BAY 1				
3 . . . . .	000-900106	F.C.B./CAP BD/EXP SERIES				
4 . . . . .	015-706300	FIN/350663-6 AMP SPOOL				
4 . . . . .	015-706400	FIN/350665-2 AMP SPOOL				
4 . . . . .	022-705300	D10 BRID VS647 600V 2A J VAR				
4 . . . . .	023-716200	CAP 8800MF 25V ALUM S CAL				
4 . . . . .	023-717500	CAP 28KMF 150 ALUM S REP				

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
085-001600		2090-2 EXPLORER II				1
	4 . . . . .	023-719000	CAP 2000MF 50V	ALUM S CAL	EA	2,000
	4 . . . . .	024-719900	CON/15F REC/CRP AMP	1-350244-9	EA	1,000
	4 . . . . .	024-721800	CON/12M REC/CRP AMP	1-350236-9	EA	1,000
	4 . . . . .	085-702400	CORD/A28--=056 ROTRON		EA	1,000
	3 . . . . .	475-002500	MECH MISC/BAY 4 F.S.		EA	1,000
	4 . . . . .	022-743800	DIO RECT SCOPE05 50V 5A	Q SEM	EA	1,000
	4 . . . . .	068-726706	PAN/2090 REAR BAY 1	X	EA	1,000
	4 . . . . .	072-700100	FAN/WISPER WR2A1		EA	1,000
	4 . . . . .	114-702600	FLTR./FAN/FAMOTER#5502		EA	1,000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
885-002100		2090-3A/DIGITAL I/O	DIGITAL I/O FRONT PANEL			1.

1	1	465-001900	DIO LEDR 406-R 29 10MA M INN	EA	1,000	
2	1	022-713700	DIO REC/CRP AMP 1-350354-9	EA	1,000	
2	1	024-723300	CIN/2F FAN/2090 FRONT BAY 3	X	1,000	
1	1	068-727102	FAN/2090 FRONT BAY 3	X	1,000	
		845-000300	2090-3 MAIN FRAME	EA	1,000	
2	1	415-004900	2090 MAIN FRAME BD	EA	1,000	
3	1	000-900301	FCB/MAIN FRAME/EXP SERIES	X	1,000	
3	1	021-702500	TRN NPN 2N3302 30V .36W A MOT	EA	2,000	
3	1	022-701100	DIO GERM 1N270 80V .2A G TTI	EA	5,000	
3	1	023-701600	CAP 2.2MF 20V 10% TANT G KEM	EA	2,000	
3	1	023-702400	CAP .01MF 100V 20% CERM R SPO	EA	2,000	
3	1	023-744100	CAP 4.7MF 10V 10% TANT G KEM	EA	9,000	
3	1	023-744300	CAP .1MF 250V 10% FLYE R SEC	EA	7,000	
3	1	024-715900	CON/16F DIP/SOL AMP 640358-3	EA	1,000	
3	1	024-724300	CON/24F DIP/SOL AMP 640361-3	EA	2,000	
3	1	024-724800	CON/40F DIP/SOL AMP 640379-3	EA	3,000	
3	1	024-734000	CONN/IG SOC/20 FIN	EA	5,000	
3	1	024-737200	CONN/56PIN/AMP 67907.3	EA	1,000	
3	1	026-705500	POT/4K PCB DAL 784-20-402	EA	2,000	
3	1	100-700700	RES NET/CSP10E-01-502J	EA	3,000	
3	1	108-010300	RES 1.0K 05% 1/4W	EA	1,000	
3	1	108-010400	RES 1.00K 05% 1/4W	EA	1,000	
3	1	108-039400	RES 390 05% 1/4W	EA	6,000	
3	1	108-047200	RES 4.7K 05% 1/4W	EA	11,000	
3	1	108-047300	RES 47K 05% 1/4W	EA	1,000	
3	1	121-700900	REG -15V .35A 79M15AUC E FCH	EA	1,000	
3	1	134-705703	IC/741CP	EA	2,000	
3	1	134-712903	IC/74LS04N HEX INVERTER	EA	1,000	
3	1	134-713203	IC/74LS74N FLIP-FLOP	EA	6,000	
3	1	134-743703	IC/74LS253N MULTIPLEXER	EA	1,000	
3	1	134-717403	IC/74S287N PROM	EA	1,000	
3	1	134-718503	IC/74S182N CARRY LOOKAHEAD	EA	1,000	
3	1	134-720503	IC/74LS174N REGISTER	EA	4,000	
3	1	134-724500	IC/DAC80-CBT-9 12BIT DAC	EA	2,000	
3	1	134-7224903	IC/74S169 COUNTER	EA	3,000	
3	1	134-728803	IC/74S472 PROM	EA	5,000	
3	1	134-730903	IC/74LS367N HEX DRIVER	EA	6,000	
3	1	134-731003	IC/74LS138N MULTIPLEXER	EA	3,000	
3	1	134-731603	IC/74LS254N MULTIFLEXER	EA	2,000	
3	1	134-732100	IC/96L02 MONOSTABLE	EA	1,000	
3	1	134-734300	IC/2901A 4BIT SLICE	EA	3,000	
2	1	415-005000	2090 BLANKING BD	EA	1,000	
3	1	000-900202	PCB/2090 BLANKING	X	1,000	
3	1	015-706400	PIN/350665-2 AMP SPOOL	EA	12,000	
3	1	017-704200	LABEL/HI VOLT/EXPL	EA	1,000	
3	1	021-700600	TRN NPN 2N2484 60V .36W A MOT	EA	4,000	
3	1	021-702200	TRN NPN 2N3903 40V 1W B MOT	EA	1,000	
3	1	021-711100	TRN NPN MPSU10 300V 1W E MOT	EA	4,000	

ASSEMBLY  
885-002100LEVEL  
COMPONENT

ENG DWG VENDOR U/M QTY

2090-3A/DIGITAL 1/0

3.....	021-711400	TRN FETP M113 30V .22W A SLX	EA	1,000
3.....	022-700800	DIO RECT 1N4004 400V 1A 6 TXI	EA	1,000
3.....	022-711600	DIO TERR 1N4376 10V .05A 6 FCH	EA	1,000
3.....	023-702400	CAP .01MF 100V 20% CERM R SPG	EA	2,000
3.....	023-707500	CAP 6.8MF 35V 10% TANT 6 KEM	EA	1,000
3.....	023-711100	CAP 4.7MF 10V 10% TANT 6 KEM	EA	1,000
3.....	023-711300	CAP .1MF 250V 10% PLYE R SEC	EA	6,000
3.....	023-719400	CAP .01MF 3000V 20% CERM R SPG	EA	2,000
3.....	024-719900	CONN/15F RED/CRP AMP 1-350244-9	EA	1,000
3.....	024-724600	CONN/10F REC/IDF MMH 3473-6000	EA	1,000
3.....	024-734900	CONN/8M HDR/SOL BRG 65532-108	EA	2,000
3.....	024-735900	CONN/10FIN/3N3474-0001T	EA	1,000
3.....	026-705700	POT/5K PCB DAL 784-20-502	EA	5,000
3.....	026-705900	POT/500K PCB DAL 784-20-504	EA	1,000
3.....	026-706400	POT/1MEG PCB DAL 784-20-105	EA	1,000
3.....	032-700600	INSUL/TRANSISTOR PAD	EA	4,000
3.....	042-711400	COVER/BLANKING BD	EA	1,000
3.....	042-712600	COVER/BLANKING BD	EA	1,000
3.....	105-022300	RES 22K 05% 2W	EA	2,000
3.....	105-027300	RES 27K 05% 2W	EA	2,000
3.....	108-010500	RES 1M 05% 1/4W	EA	1,000
3.....	108-022200	RES 2.2K 05% 1/4W	EA	1,000
3.....	108-022300	RES 22K 05% 1/4W	EA	2,000
3.....	108-022400	RES 220K 05% 1/4W	EA	1,000
3.....	108-047100	RES 470 05% 1/4W	EA	2,000
3.....	108-047200	RES 4.7K 05% 1/4W	EA	1,000
3.....	108-056000	RES 5.6 05% 1/4W	EA	1,000
3.....	134-729400	IC/6N137	EA	1,000
3.....	201-100300	RES 100K 01% 1/8W PRES	EA	2,000
3.....	201-127300	RES 1.27M 01% 1/8W PRES	EA	3,000
3.....	201-165200	RES 1.6.5K 01% 1/8W PRES	EA	1,000
3.....	201-200200	RES 20K 01% 1/8W PRES	EA	3,000
3.....	201-200300	RES 200K 01% 1/8W PRES	EA	4,000
3.....	201-243200	RES 24.3K 01% 1/8W PRES	EA	1,000
3.....	201-249100	RES 2.49K 01% 1/8W PRES	EA	1,000
3.....	201-499200	RES 49.9K 01% 1/8W PRES	EA	1,000
3.....	201-750200	RES 75K 01% 1/8W PRES	EA	1,000
3.....	201-976200	RES 97.6K 01% 1/8W PRES	EA	1,000
2.....	415-007000	2090 4K MEMORY BD	EA	1,000
3.....	000-900402	F.C.B./2090 MEMORY 4K	EA	1,000
3.....	023-702400	CAP .01MF 100V 20% CERM R SPG	EA	1,000
3.....	023-711100	CAP 4.7MF 10V 10% TANT 6 KEM	EA	4,000
3.....	024-734400	CONN/18F DIP/SOL AMP 640359-3	EA	13,000
3.....	024-737200	CONN/56FIN/AMP 67907.3	EA	1,000
3.....	100-700700	RES NET/CSP10E-01-502J	EA	1,000
3.....	108-047100	RES 470 05% 1/4W	EA	1,000
3.....	134-723003	IC/74LS14N HEX INVERTER	EA	1,000
3.....	134-723903	IC/74LS257 MULTIPLEXER	EA	4,000

X

X

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR	U/M	QTY
885-002400		2090-3A/DIGITAL I/O					1

3.....	134-730903	IC/74LS367N HEX DRIVER			EA	3,000	
3.....	134-736803	IC/74LS374N REGISTER			EA	4,000	
3.....	134-736903	IC/74LS241N OCTAL BUFFER			EA	3,000	
3.....	134-742300	IC/2141-2			EA	13,000	
2.....	415-007100	2090-3 INNER CONN BD 4K			EA	1,000	
3.....	000-900500	FCB/INTERFACE BD/2090	X		EA	1,000	
3.....	024-725000	CON/12M HDR/SOL AMP 9-350264-1			EA	1,000	
3.....	085-707900	CBL/50 COND/DAISY CHAIN			EA	1,000	
2.....	465-001400	2090 FRONT PANEL			EA	1,000	
3.....	011-723001	BEKT/2090 STRAIN RELIEF	X		EA	1,000	
3.....	015-706300	FIN/350663-6 AMP SPOOL			EA	4,000	
3.....	017-704600	LABEL/LOOD/JEWEL			EA	1,000	
3.....	022-714800	DTO LEDG FL9340 2.3V20MA L FCH			EA	1,000	
3.....	024-721700	CON/4K REC/CRF AMP 1-350233-9			EA	1,000	
3.....	025-715500	SW/PA166-014-DAA			EA	2,000	
3.....	025-718100	SW/72150642ZCE-2 C&K			EA	2,000	
3.....	025-718500	SW/LB 2P2T LT 01-700155			EA	1,000	
3.....	025-721300	SW/TOGGLE *LFH-123			EA	2,000	
3.....	025-727100	SW/845773-3K-1			EA	1,000	
3.....	025-727200	SW/C & K SPDT 8121-J82			EA	1,000	
3.....	025-734300	SW/RO 1PL2-7FS CL PA166-025			EA	1,000	
3.....	045-703301	KNOB/KY-42322 1/8"			EA	4,000	
3.....	068-726905	FAN/2090 FRONT BAY 2			EA	1,000	
3.....	068-741001	FAN/2090 FRONT SUB BAY 2	X		EA	1,000	
3.....	085-900000	CBL/26 COND/2090 FRONT	X		EA	1,000	
3.....	093-702400	FASTNR/SCR 6-32 X 1/4" BLK	X		EA	4,000	
2.....	475-001500	2090-3 FINAL ASME			EA	1,000	
3.....	041-724500	BRKT/FRAME GROUND/2090			EA	1,000	
3.....	017-704101	LABEL/2090-3	X		EA	1,000	
3.....	026-707800	POT/BAB14-6670C,L, 250K			EA	1,000	
3.....	042-710903	COVER/BOTTOM/EXPL. I.I.	X		EA	1,000	
3.....	042-712500	COVER/LINE VOLTAGE	X		EA	1,000	
3.....	042-712803	COVER/2090-3 L SIDE	X		EA	2,000	
3.....	051-700100	BUMPER/SJ5004X	X		EA	2,000	
3.....	051-700300	BUMPER/A5025			EA	5,000	
3.....	085-703800	CORD/A/C/LINE P2392 SW			EA	1,000	
3.....	164-700500	GROUT/BLUE/EXPL.	X		EA	1,000	
3.....	268-703001	BEZEL/EXP SERIES	X		EA	1,000	
3.....	268-704300	MECH MTSU/TILT STAND/14"			EA	1,000	
2.....	475-001700	2090-3 CAB ASM			EA	1,000	
3.....	010-701500	NUT/SQUARE .860" #8-32			EA	1,000	
3.....	024-740300	CONN/AMP 87499-3/2PIN			EA	1,000	
3.....	027-700600	C.R.T./62D14GH/AMPEREX			EA	1,000	
3.....	034-714701	RAIL/TOP CENTER/EXPL.	X		EA	1,000	
3.....	034-714803	RAIL/SIDE EXPL.			EA	2,000	
3.....	034-714901	RAIL/CONN/EXPL	X		EA	8,000	
3.....	034-715301	RAIL/CORNER SUPPORT	X		EA	4,000	
3.....	034-715401	RAIL/PLUG IN	X		EA	2,000	

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG	DWG	VENDOR	U/I#	QTY
885-002100			2090-3A/DIGITAL I/O					1

3.....	044-704305	SHIELD/2090 CRT	X					1
3.....	049-700100	HANDLE/9INYLUXE	X					1,000
3.....	129-702100	FRAME/2090/END	X					2,000
3.....	129-900101	FRAME/2090 ROUNDED END	X					4,000
2.....	645-000400	2090 M.F. POWER SUPPLY	X					1,000
3.....	415-005300	2090 POWER SUPPLY BD	X					1,000
4.....	000-900004	PCB/2090 REGULATOR	X					1,000
4.....	006-701400	WASH/NO. J TEFILON	X					2,000
4.....	011-716401	BRKT/H.V. XFORMER 60HZ	X					1,000
4.....	011-720900	BRKT/TINTEN. FOCUS/2090	X					1,000
4.....	014-721000	BRKT/FWR SPLV MTG/2090	X					2,000
4.....	014-723101	BRKT/HI VOLT XFORMER/EXPL.	X					1,000
4.....	015-706400	PIN/350665-2 AMP SPOOL	X					30,000
4.....	017-704200	LABEL/HI VOLT/EXPL.	X					6,000
4.....	019-706000	XFORMER/ITA-1552-11	X					1,000
4.....	019-707000	XFORMER/HV WINDING/EXPL2	3					1,000
4.....	021-703800	TRN NPN 2N5978 60V 75W	E MOT					2,000
4.....	021-708800	TRN NPN 2N5301 40V 200W	D MOT					1,000
4.....	022-700800	DIO RECT 1N4004 400V 1A	G YXI					6,000
4.....	022-705100	DIO ZENR 1N5268 82V .5W	G MOT					1,000
4.....	022-706900	DIO TRRF FM50 5KV .01A	G SEM					2,000
4.....	022-707000	DIO TRRF SF2 200V 1A	G SEM					5,000
4.....	022-7141900	DIO BRID VE48X 400V 1A	C VAR					1,000
4.....	023-022200	CAP 2MF 15V 10%	TANT G KEM					1,000
4.....	023-700200	CAP 1.000PF 300V 5%	MICA R ARC					1,000
4.....	023-702800	CAP .68MF 35V 10%	TANT G KEM					1,000
4.....	023-704700	CAP 1MF 35V 10%	TANT G KEM					2,000
4.....	023-706900	CAP 50MF 50V	ALUM G SPG					1,000
4.....	023-707300	CAP 1MF 200V 10%	MYLR G TRW					2,000
4.....	023-714200	CAP 220MF 10V 10%	TANT G KEM					1,000
4.....	023-713500	CAP 4.7MF 50V 10%	TANT G KEM					2,000
4.....	023-719400	CAP .01MF 3000V 20%	CERM R SPG					5,000
4.....	023-749700	CAP 2.2MF 50V 10%	TANT G KEM					5,000
4.....	024-719600	CON/1.5M HDR/SOL AMP	9-350268-1					1,000
4.....	024-722500	CON/1.2F REC/CRP AMP	1-350243-9					2,000
4.....	024-723400	CON/2M HDE/SOL AMP	9-350360-1					1,000
4.....	024-726900	CON/6F REC/CRP AMP	1-350241-9					1,000
4.....	026-705400	POT/500 FCB DAL	784-20-501					5,000
4.....	026-706000	POT/20K FCB DAL	784-20-203					1,000
4.....	026-706500	POT/BRNS 500K						2,000
4.....	032-700800	INSUL/DIODE						1,000
4.....	032-700900	INSUL/DIODE						7,000
4.....	044-704600	SHIELD/H.V. EXPL.	X					1,000
4.....	067-700300	CORE/E1960-S-011A						2,000
4.....	070-703400	FUSE/.75 A/276.750 LITTLEFUSE						1,000
4.....	079-700000	THERMO/S165 DEG 7BT6B10						1,000
4.....	098-700200	HT SNK/207CB W						1,000
4.....	098-704000	HT SNK/EXPL P.S.	X					1,000

885-002400

ASSEMBLY LEVEL COMPONENT

DESCRIPTION QTY

2090-3A/DIGITAL I/O

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
4.....	4.....	098-704300	HT SNK	10X	1/2W	1
4.....	4.....	101-010500	RES 4M	10X	1/2W	EA
4.....	4.....	101-022500	RES 2.2M	10X	1/2W	EA
4.....	4.....	105-012100	RES 1.20	05X	2W	EA
4.....	4.....	106-703500	RES .4	05X	10W	EA
4.....	4.....	106-703600	RES 200M	10X	1W	EA
4.....	4.....	108-010300	RES 40K	05X	1/4W	EA
4.....	4.....	108-015300	RES 15K	05X	1/4W	EA
4.....	4.....	108-022100	RES 220	05X	1/4W	EA
4.....	4.....	108-027100	RES 270	05X	1/4W	EA
4.....	4.....	108-033200	RES 3.3K	05X	1/4W	EA
4.....	4.....	121-702100	REG 5.70	30V 1A	78GU1C E FCH	EA
4.....	4.....	121-702300	REG 1.2.10	379 1.5A	317T E NAT	EA
4.....	4.....	121-702400	REG -4.270-379	1.5A	337T E NAT	EA
4.....	4.....	121-702600	REG 210339	.15A LAS1000	A LAM	EA
4.....	4.....	201-100300	RES 100K	04X	1/8W	PRES
4.....	4.....	201-124000	RES 1.24	04X	1/8W	PRES
4.....	4.....	201-200400	RES 2K	04X	1/8W	PRES
4.....	4.....	201-200300	RES 200K	04X	1/8W	PRES
4.....	4.....	201-221100	RES 2.21K	04X	1/8W	PRES
4.....	4.....	201-249000	RES 2.49	04X	1/8W	PRES
4.....	4.....	201-249100	RES 2.49K	04X	1/8W	PRES
4.....	4.....	201-301000	RES 30.1	04X	1/8W	PRES
4.....	4.....	201-365000	RES 3.65	04X	1/8W	PRES
4.....	4.....	201-499100	RES 4.99K	04X	1/8W	PRES
4.....	4.....	201-604000	RES 6.04	04X	1/8W	PRES
4.....	4.....	201-619200	RES 6.19K	04X	1/8W	PRES
4.....	4.....	201-825000	RES 82.5	04X	1/8W	PRES
3.....	4.....	465-001200	2090 REAR PANEL BAY 2			EA
4.....	4.....	015-706300	PIN/350663-6 AMP SPOOKI			EA
4.....	4.....	015-706400	PIN/350663-2 AMP SPOOKI			EA
4.....	4.....	019-708700	XFORMER/DJ346			EA
4.....	4.....	024-711500	CON/5F CTR/SOL	SMC 61H45F		EA
4.....	4.....	024-711600	CON/5M C1R/SOL	SMC 12CL5M		EA
4.....	4.....	024-721400	CON/4F C8L/SOL	APH 31-010		EA
4.....	4.....	024-721600	CON/4F REG/LFP	AMP 4-350240-9		EA
4.....	4.....	024-723300	CON/2F REG/LFP	AMP 1-350354-9		EA
4.....	4.....	024-724600	CON/1OF REG/TOP	MM 3473-6000		EA
4.....	4.....	024-726900	CON/6F REG/LFP	AMP 1-350241-9		EA
4.....	4.....	024-730800	CONN/15 PIN 1-350237-9			EA
4.....	4.....	025-727500	SW/CW/GF-642			LA
4.....	4.....	068-726608	FAN/2090 REAR BAY 2			EA
4.....	4.....	070-701100	FUSE/348890 BODY			EA
4.....	4.....	070-701200	FUSE/348007 CAP			EA
4.....	4.....	102-700200	MOVISTOR/V130LA0A			EA
4.....	4.....	114-701800	FLTR/6 AMP 6H9 CORCOM			EA
3.....	4.....	465-001300	2090 REAR PANEL BAY 1			EA
3.....	4.....	415-005200	2090 CAP BD P.S. BAY 1			EA

ASSEMBLY LEVEL

DETAILED

COMPONENT

2090-3A/DIGITAL I/O

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/H	QTY
885-002400	5.....	000-900106	P.C. B./CAP BD/EXP. SERIES	X		1.
	5.....	015-706300	PIN/350663-6 AMP SPOOL		EA	1,000
	5.....	015-706400	PIN/350665-2 AMP SPOOL		EA	1,000
	5.....	022-705300	D10 ERID VS647 600V 2A J VAR	J	EA	2,000
	5.....	023-716200	CAP 8800MF 25V ALUM S CAL	ALUM S CAL	EA	2,000
	5.....	023-717500	CAP 28KMF 15V ALUM S REP	ALUM S REP	EA	2,000
	5.....	023-719000	CAP 2000MF 50V ALUM S CAL	ALUM S CAL	EA	2,000
	5.....	024-719900	CON/15F REC/CRP AMP 1-350244-9	CON/15F REC/CRP AMP 1-350244-9	EA	1,000
	5.....	024-721800	CON/12M REC/CRP AMP 1-350236-9	CON/12M REC/CRP AMP 1-350236-9	EA	1,000
	5.....	085-702400	CORD/428-056 ROTRON	CORD/428-056 ROTRON	EA	1,000
4.....	475-002500	MECH MISC/BAY 1 P.S.			EA	1,000
5.....	022-713800	DIO RECT SCPE05 50V 5A Q STEM	X		EA	1,000
5.....	068-726706	FAN/WISPER WR2A1			EA	1,000
5.....	072-700100	FLTR./FAN/PAMOTER#5502			EA	1,000
5.....	114-702600	2090 BAY 3 POWER SUPPLY			EA	1,000
2.....	645-000500	2090 POWER SUPPLY BD BAY 3			EA	1,000
3.....	415-005500	P.C.B./2090 BAY 3 SUPPLY	X		EA	1,000
4.....	000-902103	WASH/NO J TEFLON			EA	4,000
4.....	006-701400	BRKT/THIRD BAY P.S./2090.3	X		EA	2,000
4.....	011-721900	FIN/350663-6 AMP SPOOL			EA	6,000
4.....	015-706300	TRN NFM 2N5301 40V 200W D MOT			EA	2,000
4.....	021-708800	DIO RECT 1N4004 400V 1A G TXI			EA	6,000
4.....	022-700800	DIO TRRM 3SM2 200V 2A G SEM			EA	4,000
4.....	022-707100	CAP 1000PF 300V 5% MICA R ARC			EA	2,000
4.....	023-700200	CAP 1MF 35V 10% TANT G KEM			EA	1,000
4.....	023-704700	CAP 22MF 35V 10% TANT G KEM			EA	4,000
4.....	023-711000	CAP 100MF 50V ALUM G SPG			EA	1,000
4.....	023-714000	CAP 8800MF 25V ALUM S CAL			EA	2,000
4.....	023-716200	CAP 28KMF 15V ALUM S REP			EA	1,000
4.....	098-704700	HT SNK/THM6006B-2-2			EA	1,000
4.....	106-701800	RES .18 10% 2W			EA	1,000
4.....	106-702700	RES .36 05% 2W			EA	1,000
4.....	108-022200	RES 2.2K 05% 1/4W			EA	2,000
4.....	108-027100	RES 270 05% 1/4W			EA	2,000
4.....	121-702400	REG -4.2TO-37V 1.5A 337T E NAT			EA	1,000
4.....	121-726900	REG 2T038V ,15A LAS1000 A LAM			EA	2,000
4.....	201-124200	RES 124 01% 1/8W PRES			EA	1,000
4.....	201-150000	RES 150 01% 1/8W PRES			EA	1,000
4.....	201-200100	RES 2K 01% 1/8W PRES			EA	1,000
4.....	201-301000	RES 304 01% 1/8W PRES			EA	2,000
4.....	201-365000	RES 365 01% 1/8W PRES			EA	1,000
4.....	201-604000	RES 604 01% 1/8W PRES			EA	2,000
4.....	201-681900	RES 68.1 01% 1/8W PRES			EA	1,000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
885-002100		2090-3A/DIGITAL I/O		1		
3.....	4.....	475-003100	MECH MISC/BAY 3 P.S.	EA	1,000	
4.....	002-706500	PLATE/I/O COVER	X	EA	1,000	
4.....	015-706300	PIN/350663-6 AMP SPOOL		EA	6,000	
4.....	015-706400	PIN/350665-2 AMP SPOOL		EA	6,000	
4.....	019-707700	XFORMER/D6-A47 FOREST		EA	1,000	
4.....	024-712800	CON/9F REC/CRF AMP 4-350242-9		EA	1,000	
4.....	024-727000	CON/6M REC/CRF AMP 4-350234-9		EA	1,000	
4.....	068-728003	FAN/2090 REAR BAY 3	X	EA	1,000	
4.....	070-703000	FUSE/SLO BLO 3A63		EA	2,000	
4.....	845-000700	DIGITAL I/O - A ADD		EA	1,000	
4.....	415-006800	I/O CONN CARD		EA	1,000	
2.....	000-902401	F.C.B./I/O CARD/2090-3	X	EA	1,000	
3.....	011-721000	BRKT/PWR SPLY MTG/2090	X	EA	1,000	
3.....	134-715303	IC/7438N 0/C 2-NAND		EA	5,000	
2.....	415-007400	2090 DIGITAL I/O BD	X	EA	1,000	
3.....	000-902205	FCB/2090 I/O		EA	1,000	
3.....	015-706400	PIN/350665-2 AMP SPOOL		EA	6,000	
3.....	023-700200	CAP 1000PF 300V 5% MCIA R ARC		EA	1,000	
3.....	023-702400	CAP .01MF 100V 20% CERM R SFG		EA	6,000	
3.....	023-711100	CAP 4.7MF 10V 10% TANT G KEM		EA	8,000	
3.....	024-723400	CON/2M HDR/SOL AMP 9-350360-1		EA	1,000	
3.....	024-726200	CON/6F REC/CRF AMP 1-350241-9		EA	1,000	
3.....	024-733200	CON/6M HDR/SOL AMP 9-350259-2		EA	1,000	
3.....	024-734000	CONN/IC SOC/20 FIN		EA	2,000	
3.....	024-737200	CONN/56PIN/AMP 67907.3		EA	1,000	
3.....	085-707700	CBL/50 COND/7 IN./SPEC		EA	1,000	
3.....	100-700700	RES NET/GSP10E-01-502J		EA	2,000	
3.....	108-010300	RES 10K 05% 1/4W		EA	4,000	
3.....	108-033100	RES 330 05% 1/4W		EA	1,000	
3.....	134-712803	IC/74LS00N 2-NAND		EA	3,000	
3.....	134-712903	IC/74LS04N HEX INVERTER		EA	3,000	
3.....	134-713203	IC/74LS20N FLIP-FLOP		EA	4,000	
3.....	134-713703	IC/74LS253N MULTIFLEXER		EA	1,000	
3.....	134-715303	IC/7438N 0/C 2-NAND		EA	2,000	
3.....	134-718803	IC/74LS175N REGISTER		EA	3,000	
3.....	134-720403	IC/74LS02N 2-NOR		EA	2,000	
3.....	134-720503	IC/74LS174N REGISTER		EA	5,000	
3.....	134-721203	IC/74LS163N COUNTER		EA	2,000	
3.....	134-722403	IC/74LS139N MULTIFLEXER		EA	1,000	
3.....	134-723003	IC/74LS14N HEX INVERTER		EA	4,000	
3.....	134-723903	IC/74LS257 MULTIFLEXER		EA	6,000	
3.....	134-728803	IC/74S472 FROM		EA	2,000	
3.....	134-730903	IC/74LS367N HEX DRIVER		EA	4,000	
3.....	134-731003	IC/74LS138N MULTIFLEXER		EA	2,000	
3.....	134-731903	IC/74LS395N SHIFT REGISTER		EA	4,000	

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG Dwg	VENDOR U/M	QTY
885-002200			2090-3B/DISK			1

1 .....		845-000300	2090-3 MAIN FRAME			
2 .....		415-004900	2090 MAIN FRAME BD			EA 1.000
3 .....		000-900301	PCB/MAIN FRAME/EXP SERIES			EA 1.000
3 .....		021-702500	TRN NFN 2N3302 30V .36W A MOT			EA 2.000
3 .....		022-701400	DIO GERM 1N270 80V .2A 6 ITT			EA 5.000
3 .....		023-701600	CAP 2.2MF 20V 10% TANT G KEM			EA 2.000
3 .....		023-702400	CAP .01MF 100V 20% CERM R SPG			EA 2.000
3 .....		023-711400	CAP 4.7MF 10V 10% TANT G KEM			EA 9.000
3 .....		023-711300	CAP .1MF 250V 10% FLYE R SEC			EA 7.000
3 .....		024-715900	CONN/16F DIP/SOL AMP 640358-3			EA 1.000
3 .....		024-721300	CONN/24F DIP/SOL AMP 640361-3			EA 2.000
3 .....		024-724800	CONN/4CF DIP/SOL AMP 640379-3			EA 3.000
3 .....		024-734000	CONN/IC SOC/20 PIN			EA 5.000
3 .....		024-737200	CONN/56PIN/AMP 67907.3			EA 1.000
3 .....		026-705500	POT/1K FCB DAL 784-20-102			EA 2.000
3 .....		100-700700	RES NET/CSP10E-01-502J			EA 3.000
3 .....		108-010300	RES 1.0K 05% 1/4W			EA 1.000
3 .....		108-010400	RES 1.0K 05% 1/4W			EA 1.000
3 .....		108-039400	RES 3.9K 05% 1/4W			EA 6.000
3 .....		108-047200	RES 4.7K 05% 1/4W			EA 11.000
3 .....		108-047300	RES 4.7K 05% 1/4W			EA 1.000
3 .....		121-700900	REG -15V .35A 79M15AUC E FCH			EA 1.000
3 .....		134-705703	IC/741CP			EA 2.000
3 .....		134-712903	IC/74LS04N HEX INVERTER			EA 1.000
3 .....		134-743203	IC/74LS74N FLIP-FLOP			EA 6.000
3 .....		134-743703	IC/74LS253N MULTIPLEXER			EA 1.000
3 .....		134-717403	IC/74S287N PROM			EA 1.000
3 .....		134-718503	IC/74S182N CARRY LOOKAHEAD			EA 1.000
3 .....		134-720503	IC/74LS174N REGISTER			EA 4.000
3 .....		134-724500	IC/DAC80-CBT-9 12BIT DAC			EA 2.000
3 .....		134-724903	IC/74S169 COUNTER			EA 3.000
3 .....		134-728803	IC/74S472 PROM			EA 5.000
3 .....		134-730903	IC/74LS367N HEX DRIVER			EA 6.000
3 .....		134-731003	IC/74LS138N MULTIPLEXER			EA 3.000
3 .....		134-731603	IC/74LS254N MULTIPLEXER			EA 2.000
3 .....		134-732100	IC/96L02 MONOSTABLE			EA 1.000
3 .....		134-734300	IC/2901A 4BIT SLICE			EA 3.000
2 .....		415-005000	2090 BLANKING BD			EA 1.000
3 .....		000-900202	PCB/2090 BLANKING			EA 1.000
3 .....		015-706400	PIN/350665-2 AMP SPOOL			EA 12.000
3 .....		017-704200	LABEL/HI VOLT/EXPL X			EA 1.000
3 .....		021-700600	TRN NPN 2N2484 60V .36W A MOT			EA 4.000
3 .....		021-702200	TRN NPN 2N3903 40V 1W B MOT			EA 1.000
3 .....		021-711400	TRN NPN MPSU10 300V 1W E MOT			EA 4.000
3 .....		021-711400	TRN FETP M113 30V .22W A SLX			EA 1.000
3 .....		022-700800	DIO RECT 1N4004 400V 1A G TXI			EA 1.000
3 .....		022-711600	DIO TRRF 1N4376 10V .05A G FCH			EA 1.000
3 .....		023-702400	CAP .01MF 100V 20% CERM R SPG			EA 2.000

885-002200

ASSEMBLY LEVEL COMPONENT

ENG DWG VENDOR U/M QTY

2090-3E/DISK

3.....	023-707500	CAP 6.8MF 35V 10% TANT G KEM	EA 1,000
3.....	023-711100	CAP 4.7MF 10V 10% TANT G KEM	EA 1,000
3.....	023-711300	CAP 4.1MF 250V 10% PLYE R SEC	EA 6,000
3.....	023-719400	CAP 0.01MF 3000V 20% CERM R SPG	EA 2,000
3.....	024-719900	CONN/15F REC/CRP AMP 1-350244-9	EA 1,000
3.....	024-724600	CONN/10F REC/TDP MMM 3473-6000	EA 1,000
3.....	024-734200	CONN/8M HDR/SOL BRG 65532-108	EA 2,000
3.....	024-735900	CONN/10FIN/3M3474.0001T	EA 1,000
3.....	026-705700	POT/5K FCB DAL 784-20-502	EA 5,000
3.....	026-705900	POT/50K FCB DAL 784-20-504	EA 1,000
3.....	026-706400	POT/4MEG FCB DAL 784-20-105	EA 1,000
3.....	032-700600	INSUL/TRANSIS PAD	EA 4,000
3.....	042-711400	COVER/BLANK-2090	EA 1,000
3.....	042-712600	COVER/BLANKING BD	EA 1,000
3.....	105-022300	RES 22K 05% 2W	EA 2,000
3.....	105-027300	RES 27K 05% 2W	EA 2,000
3.....	108-010500	RES 1M 05% 1/4W	EA 2,000
3.....	108-022200	RES 2.2K 05% 1/4W	EA 1,000
3.....	108-022300	RES 22K 05% 1/4W	EA 1,000
3.....	108-022400	RES 220K 05% 1/4W	EA 2,000
3.....	108-047100	RES 470 05% 1/4W	EA 1,000
3.....	108-047200	RES 4.7K 05% 1/4W	EA 1,000
3.....	108-056000	RES 56 05% 1/4W	EA 1,000
3.....	134-729400	IC/6N137	EA 1,000
3.....	201-100300	RES 100K 01% 1/8W	RES 2,000
3.....	201-1427300	RES 1.27K 01% 1/8W	RES 3,000
3.....	201-165200	RES 16.5K 01% 1/8W	RES 1,000
3.....	201-200200	RES 20K 01% 1/8W	RES 3,000
3.....	201-200300	RES 200K 01% 1/8W	RES 4,000
3.....	201-243200	RES 24.3K 01% 1/8W	RES 4,000
3.....	201-249100	RES 2.49K 01% 1/8W	RES 1,000
3.....	201-249200	RES 49.9K 01% 1/8W	RES 1,000
3.....	201-750200	RES 75K 01% 1/8W	RES 1,000
3.....	201-976200	RES 97.6K 01% 1/8W	RES 1,000
2.....	415-007000	2090 4K MEMORY BD	EA 1,000
3.....	000-900402	F.C.B./2090 MEMORY 4K	EA 1,000
3.....	023-702400	CAP .01MF 100V 20% CERM R SPG	EA 1,000
3.....	023-711100	CAP 4.7MF 10V 10% TANT G KEM	EA 4,000
3.....	024-734400	CONN/18F DIP/SOL AMP 640359-3	EA 13,000
3.....	024-737200	CONN/56FIN/AMP 67907.3	EA 1,000
3.....	100-700700	RES NET/CSPIOE-01-502J	EA 1,000
3.....	108-047100	RES 470 05% 1/4W	EA 1,000
3.....	134-723003	IC/74LS14N HEX INVERTER	EA 1,000
3.....	134-723903	IC/74LS257 MULTIPLEXER	EA 4,000
3.....	134-730903	IC/74LS367N HEX DRIVER	EA 3,000
3.....	134-736803	IC/74LS374N REGISTER	EA 4,000
3.....	134-736903	IC/74LS241N OCTAL BUFFER	EA 3,000
3.....	134-742300	IC/2141-2	EA 13,000

X

X

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
885-002200		2090-3B/DISK				1
	2.....	415-007100	2090-3 INNER CONN BD 4K		EA	1,000
	3.....	009-900500	PCB/INTERFACE BD/2090	X	EA	1,000
	3.....	024-725000	CON/12M HDR/SOL AMP 9-350264-1		EA	1,000
	3.....	085-707900	CBL/50 COND/DALSY CHAIN		EA	1,000
	2.....	465-001400	2020 FRONT PANEL		EA	1,000
	3.....	011-723001	BRKT/2090 STRAIN RELIEF	X	EA	1,000
	3.....	015-706300	FIN/350663-6 AMP SPOOL		EA	4,000
	3.....	017-704600	LABEL/LOGO/JEWEL		EA	1,000
	3.....	022-714800	DIO LED/FLU340 2-3V20MA L FCH		EA	1,000
	3.....	024-724700	CON/AM REC/CRP AMP 4-350233-9		EA	1,000
	3.....	025-715500	SW/PA1466-01A-0AA		EA	2,000
	3.....	025-718100	SW/7215J612ZOE-2 C&K		EA	2,000
	3.....	025-718500	SW/LB 2P2T LT 01-700455		EA	1,000
	3.....	025-721300	SW/TOGGLE #LFH-123		EA	2,000
	3.....	025-727100	SW/B45773-SK-1		EA	1,000
	3.....	025-727200	SW/C & K SPDT 8424-182		EA	1,000
	3.....	025-734300	SW/RO 4PL2-7FS CL PA1466-025		EA	1,000
	3.....	045-703301	KNOB/KX-12322 1/8"		EA	4,000
	3.....	068-726205	FAN/2090 FRONT BAY 2	X	EA	1,000
	3.....	068-741001	FAN/2090 FRONT SUB BAY 2	X	EA	1,000
	3.....	085-900000	CBL/26 COND/2090 FRONT	X	EA	1,000
	3.....	093-702400	FASTNR/SCR 6-32 X 1/4" BLK		EA	4,000
	2.....	475-001500	2090-3 FINAL ASMB		EA	1,000
	3.....	011-724500	BRKT/FRAME GROUND/2090		EA	1,000
	3.....	017-704101	LABEL/2090-3	X	EA	1,000
	3.....	026-707800	POT/BA811-6670C.L. 250K		EA	1,000
	3.....	042-710903	COVER/BOTTOM/EXPL.III	X	EA	1,000
	3.....	042-712500	COVER/LINE VOLTAGE	X	EA	1,000
	3.....	042-712803	COVER/2090-3 L SIDE	X	EA	2,000
	3.....	051-700100	BUMPER/SJ5004X		EA	2,000
	3.....	051-700300	BUMPER/5025		EA	5,000
	3.....	085-703800	CORD/A/C/LINE P2392 SW		EA	1,000
	3.....	164-700500	GRAT/BLUE/EXPL.	X	EA	1,000
	3.....	268-703001	BEZEL/EXP SERIES	X	EA	1,000
	3.....	268-704300	MECH MISC/TILT STAND/14"		EA	1,000
	2.....	475-001700	2020-3 CAB ASMB		EA	1,000
	3.....	010-701500	NUT/SQUARE .860" #8-32	X	EA	1,000
	3.....	024-740300	CONN/AMP 87499-3/2PIN		EA	1,000
	3.....	027-700600	C.R.T./82D146H/AMPEREX		EA	1,000
	3.....	034-714701	RAIL/TOP CENTER/EXPL.	X	EA	1,000
	3.....	034-714803	RAIL/SIDE EXPL		EA	2,000
	3.....	034-714901	RAIL/CONN/EXPL	X	EA	8,000
	3.....	034-715301	RAIL/CORNER SUPPORT	X	EA	1,000
	3.....	034-715401	RAIL/PLUG IN	X	EA	2,000
	3.....	044-704305	SHIELD/2090 CRT		EA	1,000
	3.....	049-700100	HANDLE/VINYLUXE		EA	4,000
	3.....	129-702100	FRAME/2090-END	X	EA	2,000
	3.....	129-900101	FRAME/2090 ROUNDED END	X	EA	4,000

## INDENTED PARTS LIST

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ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG Dwg	UDG	UDM	QTY
885-002200	2.....	645-000400	2090 M.F. POWER SUPPLY Y				1,000
	3.....	415-005300	2090 POWER SUPPLY BD				1,000
	4.....	000-900004	PCB/2090 REGULATOR	X			1,000
	4.....	006-701400	WASH/ND J TEFILON				2,000
	4.....	011-716401	BRKT/H. V. XFORMER 60HZ	X			1,000
	4.....	011-720900	BRKT/INTEN. FOCUS/2090	X			1,000
	4.....	011-721000	BRKT/PWR SPLY MTG/2090	X			2,000
	4.....	011-723101	BRKT/HI VOLT XFORMER/EXPL	X			1,000
	4.....	015-706400	PIN/350665-2 AMP SPPOOL				30,000
	4.....	017-704200	LABEL/HI VOLT/EXPL	X			6,000
	4.....	019-706000	XFORMER/TITA-1552-14				1,000
	4.....	021-707000	XFORMER/HV WINDING/EXPL 2	3			1,000
	4.....	021-703800	TRN NPN 2N597B 60V 75W	E MOT			1,000
	4.....	021-708800	TRN NPN 2N5301 40V 200W	D MOT			2,000
	4.....	022-700800	DIO RECT 1N4004 400V 1A	G TAXI			1,000
	4.....	022-705100	DIO ZENR 1N5268 82V .5W	G MOT			6,000
	4.....	022-706900	DIO TRRF FM50 5KV .01A	G SEM			1,000
	4.....	022-707000	DIO TRRF S2F 200V 1A	G SEM			2,000
	4.....	022-711900	DIO BRID VE48X 400V 1A	C VAR			5,000
	4.....	023-029200	CAP 22MF 15V 10%	TANT G KEM			1,000
	4.....	023-700200	CAP 1000FF 300V 5%	MICA R ARC			1,000
	4.....	023-702800	CAP .68MF 35V 10%	TANT G KEM			1,000
	4.....	023-704700	CAP 1MF 35V 10%	TANT G KEM			2,000
	4.....	023-706900	CAP 50MF 50V	ALUM O SPG			1,000
	4.....	023-707300	CAP 1MF 200V 10%	MYLR G TRW			2,000
	4.....	023-711200	CAP 220MF 10V 10%	TANT G KEM			1,000
	4.....	023-713500	CAP 4.7MF 50V 10%	TANT G KEM			2,000
	4.....	023-719400	CAP .01MF 3000V 20X	CERM R SPG			5,000
	4.....	023-719700	CAP 2.2MF 50V 10%	TANT G KEM			1,000
	4.....	024-719600	CON/15M HDR/SOL AMP	9-350268-1			5,000
	4.....	024-722500	CON/12F REC/CRP AMP	1-350243-9			1,000
	4.....	024-723400	CON/2M HDR/SOL AMP	9-350360-1			2,000
	4.....	024-726900	CON/6F REC/CRP AMP	1-350241-9			1,000
	4.....	026-705400	POT/500 PCB DAL	784-20-521			5,000
	4.....	026-706000	POT/20K PCB DAL	784-20-203			1,000
	4.....	026-706500	POT/BRNS 500K				2,000
	4.....	032-700800	INSUL/DIODE				1,000
	4.....	032-700900	INSUL/DIODE				7,000
	4.....	044-704600	SHIELD/H. V. EXPL	X			1,000
	4.....	067-700300	CORE/E1960-S-011A				2,000
	4.....	070-703400	FUSE/.75 A/276.750 LITTLEFUSE				1,000
	4.....	079-700000	THERMOS/165 DEG 7BTL6B10				1,000
	4.....	098-700200	HT SNK/207CB W				1,000
	4.....	098-704000	HT SNK/EXPL P. S.	X			1,000
	4.....	098-704300	HT SNK				1,000
	4.....	101-010500	RES 1M	10% 1/2W			2,000
	4.....	101-022500	RES 2.2M	10% 1/2W			2,000
	4.....	105-012100	RES 120	05% 2W			1,000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY	
885-002200		2090-3E/DISK				1	
	4 . . . . .	106-703500	RES .4 05%	10W		1,000	
	4 . . . . .	106-703600	RES 200M	.1W	EA	1,000	
	4 . . . . .	108-010300	RES 10K	.05% /4W	EA	1,000	
	4 . . . . .	108-015300	RES 15K	.05% /4W	EA	1,000	
	4 . . . . .	108-022100	RES 220	.05% /4W	EA	2,000	
	4 . . . . .	108-027100	RES 270	.05% /4W	EA	1,000	
	4 . . . . .	108-033200	RES 3.3K	.05% 1/4W	EA	1,000	
	4 . . . . .	121-702100	REG 5 TO 30V	.1A 786UIC E FCH	EA	1,000	
	4 . . . . .	121-702300	REG 1.2 TO 37V	.1.5A 317T E NAT	EA	2,000	
	4 . . . . .	121-702400	REG -1.2TO-37V	.1.5A 337T E NAT	EA	2,000	
	4 . . . . .	121-702600	REG 2TO38V	.15A LAS1000 A LAN	EA	1,000	
	4 . . . . .	201-100300	RES 100K	.01% 1/8W	PRES	EA	1,000
	4 . . . . .	201-124000	RES 124	.04% 1/8W	PRES	EA	2,000
	4 . . . . .	201-200100	RES 2K	.04% 1/8W	PRES	EA	1,000
	4 . . . . .	201-200300	RES 200K	.04% 1/8W	PRES	EA	1,000
	4 . . . . .	201-224100	RES 2.21K	.01% 1/8W	PRES	EA	1,000
	4 . . . . .	201-249000	RES 249	.01% 1/8W	PRES	EA	2,000
	4 . . . . .	201-249100	RES 2.49K	.01% 1/8W	PRES	EA	1,000
	4 . . . . .	201-301000	RES 301	.01% 1/8W	PRES	EA	1,000
	4 . . . . .	201-365000	RES 365	.01% 1/8W	PRES	EA	1,000
	4 . . . . .	201-499100	RES 4.99K	.01% 1/8W	PRES	EA	2,000
	4 . . . . .	201-604000	RES 604	.01% 1/8W	PRES	EA	1,000
	4 . . . . .	201-619200	RES 61.9K	.01% 1/8W	PRES	EA	1,000
	4 . . . . .	201-825000	RES 825	.01% 1/8W	PRES	EA	1,000
3 . . . . .	465-001200	2090 REAR PANEL	BAY 2			1	
4 . . . . .	015-706300	PIN/350663-6	AMP SPOOL			12,000	
4 . . . . .	015-706400	PIN/350665-2	AMP SPOOL			12,000	
4 . . . . .	019-708700	XFORMER/DJ346				1	
4 . . . . .	024-711500	CON/5F CIR/SOL	SWC 61H45F			1	
4 . . . . .	024-711600	CON/5M CIR/SOL	SWC 12CL5M			1	
4 . . . . .	024-721400	CON/1F CXL/SOL	APH 31-010			2,000	
4 . . . . .	024-721600	CON/4F REC/CRP	AMP 1-350240-9			1,000	
4 . . . . .	024-723300	CON/2F REC/CRP	AMP 1-350354-9			1,000	
4 . . . . .	024-724600	CON/1OF REC/IDP	MM 3473-6000			1,000	
4 . . . . .	024-726900	CON/6F REC/CRP	AMP 1-350241-9			1,000	
4 . . . . .	024-730800	CONN/15 PIN 1-350237-9				1	
4 . . . . .	025-727500	SW/CW/GF-642				2,000	
4 . . . . .	068-726603	PAN/2090 REAR	BAY 2			1	
4 . . . . .	070-701100	FUSE/348890	BODY			1,000	
4 . . . . .	070-701200	FUSE/348007	CAP			1,000	
4 . . . . .	102-700200	MOVISTOR/V130LA10A				2,000	
4 . . . . .	114-701800	FLTR/6 AMP 6H9	CORCOM			1,000	
3 . . . . .	465-001300	2090 REAR PANEL	BAY 1			1	
4 . . . . .	415-005200	2090 CAP ED P.S.	BAY 1			1,000	
5 . . . . .	000-900106	P.C.B./CAP BD/EXP	SERIES			1,000	
5 . . . . .	015-706300	PIN/350663-6	AMP SPOOL			12,000	
5 . . . . .	015-706400	PIN/350665-2	AMP SPOOL			12,000	
5 . . . . .	022-705300	D10 BRID US647 600V	2A J VAR			2,000	

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG Dwg	VENDOR U/M	QTY
885-002200		2090-3B/DISK				1
5.....		023-716200	CAP 8800MF 25V	ALUM S CAL		2,000
5.....		023-717500	CAP 28KMF 15V	ALUM S MEP	EA	2,000
5.....		023-719000	CAP 2000MF 50V	ALUM S CAL	EA	2,000
5.....		024-719900	CON/45F REC/CRF AMP 1-350244-9	AMP 1-350244-9	EA	1,000
5.....		024-721800	CON/42M REC/CRF AMP 1-350236-9	AMP 1-350236-9	EA	1,000
5.....		085-702400	CORD/42B-056 ROTRON	CORD/42B-056 ROTRON	EA	1,000
4.....		475-002500	MECH MISC/BAY 1 P.S.	MECH MISC/BAY 1 P.S.	EA	1,000
5.....		022-713800	DIO RECT SCOPE5 50V 5A	Q SEM	EA	1,000
5.....		068-726706	PAN/2090 REAR BAY 1	X	EA	1,000
5.....		072-700100	FAN/WISPER WR2A1		EA	1,000
5.....		114-702600	FLTR./FAN/PAMOTER#5502		EA	1,000
2.....		645-000500	2090 BAY 3 POWER SUPPLY		EA	1,000
3.....		415-005500	2090 POWER SUPPLY BD BAY 3		EA	1,000
4.....		000-902103	P.C.B./2090 BAY 3 SUPPLY	X	EA	1,000
4.....		006-701400	WASH/NO J TEFILON		EA	4,000
4.....		011-721900	BRKT/THIRD BAY F. S./2090.3	X	EA	2,000
4.....		015-706300	FIN/350663-6 AMP SPOOL		EA	6,000
4.....		021-708800	TRN NFN 2N5301 400V 200W	D MOT	EA	2,000
4.....		022-700800	DIO RECT 1N4004 400V 1A	6 TXI	EA	6,000
4.....		022-707100	DIO TRRN 3SNM2 200V 2A	6 SEM	EA	4,000
4.....		023-700200	CAF 1000PF 300V 5%	MICA R ARC	EA	2,000
4.....		023-704700	CAF 1MF 35V 10%	TANT 6 KEM	EA	1,000
4.....		023-711000	CAF 22MF 35V 10%	TANT 6 KEM	EA	4,000
4.....		023-714000	CAF 100MF 50V	ALUM S SPG	EA	1,000
4.....		023-716200	CAP 8800MF 25V	ALUM S CAL	EA	2,000
4.....		023-717500	CAP 28KMF 15V	ALUM S MEP	EA	1,000
4.....		024-719900	CON/9M HDR/SOL AMP 9-350262-4	AMP 9-350262-4	EA	1,000
4.....		024-726900	CON/6F REC/CRF AMP 1-350244-9	AMP 1-350244-9	EA	1,000
4.....		026-705400	POT/500 PCB DAL 784-20-501		EA	2,000
4.....		032-700800	INSUL/DIODE		EA	2,000
4.....		098-704700	HT SNK/THM6006B-2-2		EA	1,000
4.....		106-701800	RES .18 10%	2W	EA	1,000
4.....		106-702700	RES .36 05%	2W	EA	1,000
4.....		108-022200	RES 2.2K 05%	1/4W	EA	2,000
4.....		108-027100	RES 270 05%	1/4W	EA	2,000
4.....		121-702400	REG -1.2T0-37V	1.5A 337T E NAY	EA	1,000
4.....		121-702600	REG 2T038V	.15A LAS1000 A LAM	EA	2,000
4.....		201-124000	RES 124 01X	1/8W PRES	EA	1,000
4.....		201-150000	RES 150 01X	1/8W PRES	EA	1,000
4.....		201-200100	RES 2K 01X	1/8W PRES	EA	1,000
4.....		204-301000	RES 304 01X	1/8W PRES	EA	2,000
4.....		204-301000	RES 365 01X	1/8W PRES	EA	1,000
4.....		204-301000	RES 604 01X	1/8W PRES	EA	2,000
4.....		204-301000	RES 68.4 01X	1/8W PRES	EA	1,000
3.....		475-003100	MECH MISC/BAY 3 F.S.		EA	1,000
4.....		002-706500	PLATE/I/O COVER		EA	1,000
4.....		015-706300	FIN/350663-6 AMP SPOOL		EA	6,000
4.....		015-706400	FIN/350665-2 AMP SPOOL		EA	6,000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
385-002200			2090-3B/DISK	1		1
	4.....	019-707700	XFORMER/DG-447 FOREST	EA	1,000	
	4.....	024-719800	CON/9F REC/CRP AMP 1-350242-9	EA	1,000	
	4.....	024-727000	CON/6H REC/CRP AMP 1-350234-9	EA	1,000	
	4.....	068-728003	FAN/2090 REAR BAY 3	EA	1,000	
	4.....	070-703000	FUSE/SLO BLO 3A63	EA	2,000	
1.....		845-000400	DISK-B ADD	EA	1,000	
2.....		415-005700	2090 DISK BD	EA	1,000	
3.....		000-901903	PCB/2090	EA	1,000	
3.....		015-701500	FIN/SOC 61473-1	EA	4,000	
3.....		019-707800	INDUCT/NYTRONICS/WEE 0.47UH	EA	1,000	
3.....		022-709400	DIO TRRF 1N4150 50V .2A G TXI	EA	1,000	
3.....		023-029200	CAP 22MF 15V 10% TANT G KEM	EA	3,000	
3.....		023-700300	CAP 500PF 500V 5% MICA R ARC	EA	3,000	
3.....		023-702400	CAP .04MF 400V 20% CERM R SPG	EA	1,000	
3.....		023-710600	CAP 1.0PF 100V 10% CERM R CLR	EA	1,000	
3.....		023-715100	CAP .05MF 50V CERM R ARC	EA	6,000	
3.....		024-703600	CON/4F REC/CRP AMP 1-480424-0	EA	1,000	
3.....		024-715900	CON/16F DIP/SOL AMP 640358-3	EA	4,000	
3.....		024-715900	CON/6M HDR/SOL AMP 9-350259-2	EA	1,000	
3.....		024-733200	CONN/IC SOC/20 PIN	EA	3,000	
3.....		024-734000	CONN/18F DIP/SOL AMP 640359-3	EA	4,000	
3.....		024-745000	CON/64F DIP/SOL BDY DILBQ64P	EA	1,000	
3.....		025-718000	SW/C + K #8534	EA	1,000	
3.....		026-705700	FOT/5K PCB DAL 784-20-502	EA	1,000	
3.....		085-709100	CBL/34 COND/AP 922523-34-99-1.2	EA	1,000	
3.....		100-700700	RES NET/CSP10E-01-502J	EA	2,000	
3.....		108-010000	RES 10 05% 1/4W	EA	4,000	
3.....		108-010100	RES 100 05% 1/4W	EA	1,000	
3.....		108-010200	RES 1K 05% 1/4W	EA	3,000	
3.....		108-010300	RES 10K 05% 1/4W	EA	5,000	
3.....		108-012300	RES 12K 05% 1/4W	EA	1,000	
3.....		108-015100	RES 150 05% 1/4W	EA	2,000	
3.....		108-027100	RES 270 05% 1/4W	EA	1,000	
3.....		108-033100	RES 330 05% 1/4W	EA	7,000	
3.....		108-047200	RES 4,7K 05% 1/4W	EA	2,000	
3.....		134-705303	IC/7404N HEX INVERTER	EA	1,000	
3.....		134-712803	IC/74LS00N 2-NAND	EA	4,000	
3.....		134-712903	IC/74LS04N HEX INVERTER	EA	1,000	
3.....		134-713203	IC/74LS74N FLIP-FLOP	EA	8,000	
3.....		134-716903	IC/74148N PRIORITY ENCODER	EA	1,000	
3.....		134-717503	IC/74S138N DEMULTIPLEXER	EA	1,000	
3.....		134-718103	IC/74LS19N COUNTER	EA	1,000	
3.....		134-720403	IC/74LS02N 2-NOR	EA	3,000	
3.....		134-720503	IC/74LS174N REGISTER	EA	2,000	
3.....		134-720803	IC/74LS10N 3-NAND	EA	1,000	
3.....		134-722005	IC/4040B CMOS 12 STAGE BIN COU	EA	1,000	
3.....		134-722403	IC/74LS139N MULTIPLEXER	EA	1,000	
3.....		134-725303	IC/7406N O/C HEX INVERTER	EA	2,000	

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
885-002200		2090-3B/DISK				1.
	3.....	134-728803	IC/74S472 PROM		EA	2,000
	3.....	134-730903	IC/74LS367N HEX DRIVER		EA	4,000
	3.....	134-731300	IC/9900JL PROCESSOR		EA	1,000
	3.....	134-731403	IC/74LS362N CLOCK DRIVER		EA	1,000
	3.....	134-731503	IC/74LS359N ADDRESSABLE LATCH		EA	3,000
	3.....	134-731603	IC/74LS254N MULTIPLEXER		EA	4,000
	3.....	134-731700	IC/2111A-4N 256 X 4 STATIC RAM		EA	4,000
	3.....	134-731803	IC/74LS155N DEMULTIPLEXER		EA	1,000
	3.....	134-731903	IC/74LS395N SHIFT REGISTER		EA	4,000
	3.....	134-732003	IC/74LS92N COUNTER		EA	1,000
	3.....	134-732100	IC/96L02 MONOSTABLE		EA	1,000
	3.....	191-705400	CRYSTAL/48MHZ/.05%		EA	1,000
	3.....	201-200200	RES 20K 0.1% 1/8W	PRES	EA	1,000
2	3.....	465-001200	RES 25K 0.1% 1/8W	PRES	EA	1,000
	3.....	000-902001	2090 DISK FRONT PANEL	X	EA	1,000
	3.....	011-722403	P.C.B./LED BD/mini DISK/EXP	X	EA	1,000
	3.....	022-707900	BRKT/DISK/EXP	X	EA	1,000
	3.....	022-714800	DIO LEDR FL9110 4.7V 20MA/L FCH	X	EA	4,000
	3.....	025-715500	DIO LEDG FLU340 2.3V20MA L FCH	X	EA	8,000
	3.....	025-718100	SW/PA166-011-0AA	X	EA	1,000
	3.....	025-719600	SW/7215J612ZCE-2 C&K	X	EA	2,000
	3.....	045-703301	SW/7101J60 C&K	X	EA	9,000
	3.....	068-727806	KNOB/KX-42322 1/8"	X	EA	1,000
	3.....	068-740901	FAN/2090 DISK FRONT	X	EA	1,000
	3.....	085-709000	PAN/2090 DISK FRONT SUB	X	EA	1,000
2	3.....	475-001800	CBL/34 COND/AP 922522-34-99-06	X	EA	1,000
	3.....	020-702700	2090 DISK MECH ASSY	X	EA	1,000
	3.....	034-715500	CHAS/2090 DISK SLIDE	X	EA	1,000
	3.....	222-009000	GUIDE/SCANBE 41633-1	X	EA	4,000
	3.....	270-700800	DISK DRIVE/SHUGART #5A400	X	EA	1,000
	1.....	845-000500	DISK/DYSAN 140/1	X	EA	2,000
2	2.....	415-009000	2090 DISK W/O I/O BD	X	EA	1,000
	3.....	000-902702	PCB/2090 DISK W/O I/O	X	EA	1,000
	3.....	015-706400	PIN/350665-2 AMP SPOOL	X	EA	6,000
	3.....	023-702400	CAP .01MF 100V 20% CERM R 2P6	X	EA	3,000
	3.....	023-711100	CAP 4.7MF 10V 10% TANT G KEM	X	EA	1,000
	3.....	023-715100	CAP .05MF 50V CERM R A/C	X	EA	2,000
	3.....	024-726900	CON/6F REC/CRP AMP 1-350241-9	X	EA	1,000
	3.....	024-727000	CON/6M REC/CRP AMP 1-350234-9	X	EA	1,000
	3.....	024-745000	CON/64F DIP/SOL BDY DILBQ64P	X	EA	1,000
	3.....	085-707800	CBL/50 COND/1.3 IN./SPEC	X	EA	1,000
	3.....	100-700700	RES NET/CSP10E-01-502J	X	EA	1,000
	3.....	108-010100	RES 100 05% 1/4W	X	EA	3,000
	3.....	134-712803	IC/74LS100 2-NAND	X	EA	1,000
	3.....	134-713203	IC/74LS74N FLIP-FLOP	X	EA	1,000
	3.....	134-730903	IC/74LS367N HEX DRIVER	X	EA	6,000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
885-002300	1	845-000300	2090-3 MAIN FRAME	BD		1
	2	415-004900	2090 MAIN FRAME BD		EA	1,000
	3	000-900304	FCB/MAIN FRAME/EXP SERIES	X	EA	1,000
	3	021-702500	TRN NPN 2N3302 30V .36W A	MOT	EA	2,000
	3	022-701100	DIO GERM 1N270 80V .2A	G ITT	EA	5,000
	3	023-701600	CAF 2.2MF 20V 10% TANT G KEM	EA	2,000	
	3	023-702400	CAF .01MF 100V 20% CERM R SFG	EA	2,000	
	3	023-711100	CAF 4.7MF 10V 10% TANT G KEM	EA	9,000	
	3	023-711300	CAF .1MF 250V 10% FLYE R SEC	EA	7,000	
	3	024-715900	CONN/16F DIP/SOL AMP 640358-3	EA	1,000	
	3	024-721300	CONN/24F DIP/SOL AMP 640361-3	EA	2,000	
	3	024-724800	CONN/40F DIP/SOL AMP 640379-3	EA	3,000	
	3	024-734000	CONN/IC SOC/20 PIN	EA	5,000	
	3	024-737200	CONN/56PIN/AMP 67907.3	EA	1,000	
	3	026-705500	POT/1K PCB DAL 784-20-402	EA	2,000	
	3	100-700700	RES NET/CSP10E-01-502J	EA	3,000	
	3	108-010300	RES 10K .05% 1/4W	EA	1,000	
	3	108-010400	RES 100K .05% 1/4W	EA	1,000	
	3	108-039100	RES 390 .05% 1/4W	EA	6,000	
	3	108-047200	RES 4.7K .05% 1/4W	EA	11,000	
	3	108-047300	RES 47K .05% 1/4W	EA	1,000	
	3	121-700900	REG -15V .35A 79M15AUC E FCH	EA	1,000	
	3	134-705703	IC/7410P		EA	2,000
	3	134-712903	IC/74LS04N HEX INVERTER		EA	1,000
	3	134-713203	IC/74LS74N FLIP-FLOP		EA	6,000
	3	134-713703	IC/74LS253N MULTIFLEXER		EA	1,000
	3	134-717403	IC/74S287N PROM		EA	1,000
	3	134-718503	IC/74S182N CARRY LOOKAHEAD		EA	1,000
	3	134-720503	IC/74LS174N REGISTER		EA	4,000
	3	134-724500	IC/DAC80-CBT-V 12BIT DAC		EA	2,000
	3	134-724903	IC/74S169 COUNTER		EA	3,000
	3	134-728803	IC/74S472 FROM		EA	5,000
	3	134-730903	IC/74LS367N HEX DRIVER		EA	6,000
	3	134-731003	IC/74LS138N MULTIPLEXER		EA	3,000
	3	134-731603	IC/74LS254N MULTIPLEXER		EA	2,000
	3	134-732100	IC/96L02 MONOSTABLE		EA	1,000
	3	134-734300	IC/2901A 4BIT SLICE		EA	3,000
	2	415-005000	2090 BLANKING BD		EA	1,000
	3	000-900202	PCB/2090 BLANKING	X	EA	1,000
	3	015-706400	PIN/350665-2 AMP SPOOL		EA	12,000
	3	017-704200	LABEL/HI VOLT/EXPL	X	EA	1,000
	3	021-700600	TEN NPN 2N2484 60V .36W A	MOT	EA	4,000
	3	021-702200	TRN NPN 2N3903 40V 1W B	MOT	EA	1,000
	3	021-711100	TRN NPN MF5U10 300V 1W E	MOT	EA	4,000
	3	021-711400	TRN FETP M113 30V .22W A	SLX	EA	1,000
	3	022-700800	DIO RECT 1N4004 400V 1A G	TXI	EA	1,000
	3	022-711600	DIO TRRF 1N4376 10V .05A G	FCH	EA	4,000
	3	023-702400	CAP .01MF 100V 20% CERM R SFG	EA	2,000	

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG Dwg	VENDOR U/M	QTY
885-002300			2090-3C/DISK & DIGITAL I/O			4

3.....	023-707500	CAP 6.8MF 35V 10%	TANT 6 KEM	EA	1,000	
3.....	023-711100	CAP 4.7MF 10V 10%	TANT 6 KEM	EA	1,000	
3.....	023-714300	CAP .4MF 250V 10%	FLYE R SEC	EA	6,000	
3.....	023-712400	CAP .01MF 3000V 20%	CERM R SPG	EA	2,000	
3.....	024-719900	CON/15F REC/CRP AMP	1-350244-9	EA	1,000	
3.....	024-724600	CON/10F REC/IDP MM	3473-6000	EA	1,000	
3.....	024-734900	CON/8M HDR/SOL BRG	65932-108	EA	2,000	
3.....	024-735900	CONN/10PIN/3M3474,0004T		EA	4,000	
3.....	026-705700	FOT/5K PCB DAL	784-20-502	EA	5,000	
3.....	026-705900	POT/500K PCB DAL	784-20-105	EA	4,000	
3.....	032-700600	INSUL/TRANSIT PAD		EA	4,000	
3.....	042-711400	COVER/BLANKING BD	X	EA	1,000	
3.....	042-712600	COVER/BLANKING BD	X	EA	1,000	
3.....	105-022300	RES 22K 05%	2W	EA	2,000	
3.....	105-027300	RES 27K 05%	2W	EA	2,000	
3.....	108-010500	RES 1M 05%	1/4W	EA	1,000	
3.....	108-022200	RES 2.2K 05%	1/4W	EA	1,000	
3.....	108-022300	RES 22K 05%	1/4W	EA	2,000	
3.....	108-022400	RES 220K 05%	1/4W	EA	1,000	
3.....	108-047100	RES 470 05%	1/4W	EA	2,000	
3.....	108-047200	RES 4.7K 05%	1/4W	EA	1,000	
3.....	108-056000	RES 56 05%	1/4W	EA	1,000	
3.....	134-729400	IC/6N137		EA	1,000	
3.....	201-100300	RES 400K 01%	1/8W	FRES		
3.....	201-127300	RES 1.27K 01%	1/8W	FRES		
3.....	201-165200	RES 1.6.5K 01%	1/8W	FRES		
3.....	201-200200	RES 20K 01%	1/8W	FRES		
3.....	201-200300	RES 200K 01%	1/8W	FRES		
3.....	201-243200	RES 24.3K 01%	1/8W	FRES		
3.....	201-249100	RES 2.49K 01%	1/8W	FRES		
3.....	201-429200	RES 4.9K 01%	1/8W	FRES		
3.....	201-750200	RES 75K 01%	1/8W	FRES		
3.....	201-976200	RES 97.6K 01%	1/8W	FRES		
2.....	415-007000	2090 4K MEMORY BD		EA	1,000	
3.....	000-900402	P.C.B./2090 MEMORY 4K		EA	1,000	
3.....	023-702400	CAP .01MF 1000 20%	CLIPIN R SPG	EA	1,000	
3.....	023-711100	CAP 4.7MF 10V 10%	TANT 6 KEM	EA	4,000	
3.....	024-734400	CONN/18F DIP/SOL AMP	640359-3	EA	13,000	
3.....	024-737200	CONN/56PIN/AMP	67907.3	EA	1,000	
3.....	100-700700	RES 470 05%	1/4W	EA	1,000	
3.....	134-723003	IC/74LS14N HEX INVERTER		EA	1,000	
3.....	134-723903	IC/74LS257 MULTIPLEXER		EA	4,000	
3.....	134-730903	IC/74LS367N HEX DRIVER		EA	3,000	
3.....	134-736803	IC/74LS374N REGISTER		EA	4,000	
3.....	134-736903	IC/74LS241N OCTAL BUFFER		EA	3,000	
3.....	134-742300	IC/2141-2		EA	13,000	

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
885-002300			2090-3C/DISK & DIGITAL I/O			1
2.....		445-007400	2090-3 INNER CONN BD 4K		EA	1,000
3.....		000-900500	FCB/INTERFACE BD/2090	X	EA	1,000
3.....		024-725000	CON/42M HDR/SOL AMP 9-350264-4		EA	1,000
3.....		085-707900	CBL/50 COND/DALSY CHAIN		EA	1,000
2.....		465-001400	2090 FRONT PANEL		EA	1,000
3.....		011-723001	BRKT/2090 STRAIN RELIEF	X	EA	1,000
3.....		015-706300	FIN/350663-6 AMP SPOOL		EA	4,000
3.....		017-704600	LABEL/LOGO/JEWEL		EA	1,000
3.....		022-714800	DIO LEDGE FLU340 2.3V20MA L FCH		EA	1,000
3.....		024-721700	CON/AM REC/CRF AMP 4-350233-9		EA	1,000
3.....		025-715500	SW/PA166-011-QAA		EA	2,000
3.....		025-718100	SW/7215J612ZCE-2 C&K		EA	2,000
3.....		025-718500	SW/LB 2P2T LI 01-700155		EA	1,000
3.....		025-721300	SW/TOGGLE #LFH-123		EA	2,000
3.....		025-727100	SW/845773-SK-1		EA	1,000
3.....		025-727200	SW/C & K SPDT 8121-JB2		EA	1,000
3.....		025-734300	SW/RO 4PL2-7FS CL PA166-025		EA	1,000
3.....		045-703301	KNOB/KX-12322 1/8"		EA	4,000
3.....		068-726905	FAN/2090 FRONT BAY 2	X	EA	1,000
3.....		068-741001	FAN/2090 FRONT SUB BAY 2	X	EA	1,000
3.....		085-900000	CBL/26 COND/2090 FRONT	X	EA	1,000
3.....		093-702400	FASTNR/SCR 6-32 X 1/4" BLK		EA	4,000
2.....		475-001500	2090-3 FINAL ASMB		EA	1,000
3.....		011-724500	BRKT/FRAME GROUND/2090		EA	1,000
3.....		017-704101	LABEL/2090-3	X	EA	1,000
3.....		026-707800	FOT/BAB11-6670C.L. 250K		EA	1,000
3.....		042-710903	COVER/BOTTOM/EXFL.III	X	EA	1,000
3.....		042-742500	COVER/LINE VOLTAGE	X	EA	1,000
3.....		042-712803	COVER/2090-3 L SIDE		EA	2,000
3.....		051-700100	BUMPER/SJ5004X		EA	2,000
3.....		051-700300	BUMPER/5025		EA	5,000
3.....		085-703800	CORD/A/C/LINE F2392 SW		EA	1,000
3.....		164-700500	GRAT/BLUE/EXPL.	X	EA	1,000
3.....		268-703001	BEZEL/EXP SERIES	X	EA	1,000
3.....		268-704300	MECH MISC/TILT STAND/4"		EA	1,000
2.....		475-001700	2090-3 CAB ASM B		EA	1,000
3.....		010-704500	NUT/SQUARE .860" #8-32	X	EA	1,000
3.....		024-740300	CONN/AMP 87499-3/2PIN		EA	1,000
3.....		027-700600	C.R.T./82D14GH/AMPEREX		EA	1,000
3.....		034-714701	RAIL/TOP CENTER/EXPL.	X	EA	1,000
3.....		034-714803	RAIL/SIDE EXPL.		EA	2,000
3.....		034-714901	RAIL/CONN/EXPL.	X	EA	8,000
3.....		034-715301	RAIL/CORNER SUPPORT	X	EA	1,000
3.....		034-715401	RAIL/PLUG IN	X	EA	2,000
3.....		044-704305	SHIELD/2090 CRT	X	EA	1,000
3.....		049-700100	HANDLE/VINYLUXE		EA	2,000
3.....		129-702100	FRAME/2090/END	X	EA	4,000
3.....		129-900101	FRAME/2090 ROUNDED END	X	EA	4,000

885-002300

## ASSEMBLY LEVEL

## COMPONENT

2090-3C/DISK &amp; DIGITAL I/O

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
2.....	3.....	645-000400	2090 M.F. POWER SUPPLY	EA	1,000	i.
4.....	415-005300	2090 POWER SUPPLY BD	X	EA	1,000	
4.....	000-900004	FCB/2090 REGULATOR	X	EA	1,000	
4.....	006-701400	WASH/N.O. J TEFILON	X	EA	2,000	
4.....	011-716401	BRKT/H.V. XFORMER 60HZ	X	EA	1,000	
4.....	011-720900	BRKT/INTEN. FOCUS/2090	X	EA	1,000	
4.....	011-721000	BRKT/PWR SELY MTG/2090	X	EA	2,000	
4.....	011-723101	BRKT/H.VOLT XFORMER/EXPL	X	EA	1,000	
4.....	015-706400	FIN/350665-2 AMP SPOOL	X	EA	30,000	
4.....	017-704200	LABEL/HI VOLT/EXPL	X	EA	6,000	
4.....	019-706000	XFORMER/ITA-1552-11	X	EA	1,000	
4.....	019-707000	XFORMER/HV WINDING/EXPL2	3	EA	1,000	
4.....	021-703800	TRN NPN 2N5978 60V 75W	E NOT	EA	2,000	
4.....	021-708800	TRN NPN 2N5301 40V 20W	D MOT	EA	1,000	
4.....	022-700800	DIO RECT 1N4004 400V 1A	G TXI	EA	6,000	
4.....	022-705100	DIO ZENR IN5268 82V .5W	G MOT	EA	1,000	
4.....	022-706900	DIO TRRF FM50-5KV .01A	G SEM	EA	2,000	
4.....	022-707000	DIO TRRF S2F 200V 1A	G SEM	EA	5,000	
4.....	022-714900	DIO BRID YE48X 400V 1A	G VAR	EA	1,000	
4.....	023-029200	CAP 22MF 45V 10%	TANT G KEM	EA	1,000	
4.....	023-700200	CAP 1000PF 300V 5%	MICA R ARC	EA	1,000	
4.....	023-702800	CAP .68MF 35V 10%	TANT G KEM	EA	1,000	
4.....	023-704700	CAP 1MF 35V 10%	TANT G KEM	EA	2,000	
4.....	023-706900	CAP 50MF 50V	ALUM G SPG	EA	1,000	
4.....	023-707300	CAP 1MF 200V 10%	MYLR G TRW	EA	2,000	
4.....	023-714200	CAP 220MF 40V 10%	TANT G KEM	EA	1,000	
4.....	023-743500	CAP 4.7MF 50V 10%	TANT G KEM	EA	2,000	
4.....	023-719400	CAP .01MF 300V 20%	CERM R SPG	EA	5,000	
4.....	023-719700	CAP 2.2MF 50V 10%	TANT G KEM	EA	5,000	
4.....	024-719600	CON/15M HDR/SOL AMP	9-350268-1	EA	1,000	
4.....	024-722500	CON/12F REC/CRP AMP	4-350243-9	EA	2,000	
4.....	024-723400	CON/2M HDR/SOL AMP	9-350360-4	EA	1,000	
4.....	024-726900	CON/6F REC/CRP AMP	1-350241-9	EA	1,000	
4.....	026-705400	POT/500 PCB DAL	784-20-501	EA	5,000	
4.....	026-706000	POT/20K PCB DAL	784-20-203	EA	1,000	
4.....	026-706500	FOT/BRNS 500K		EA	2,000	
4.....	032-700800	INSUL/DIODE		EA	1,000	
4.....	032-700900	INSUL/DIODE		EA	7,000	
4.....	044-704600	SHIELD/H.V. EXPL.	X	EA	1,000	
4.....	067-700300	CORE/E1960-S-011A		EA	2,000	
4.....	070-703400	FUSE/.75 A/276.750 LITTLEFUSE		EA	1,000	
4.....	079-700000	THERMOZ/165 DEG 7BTL6B10		EA	1,000	
4.....	098-700200	HT SNK/207CB W		EA	1,000	
4.....	098-704000	HT SNK/EXPL P.S.	X	EA	1,000	
4.....	098-704300	HT SNK		EA	1,000	
4.....	101-010500	RES 1M	1.0% 1/2W	EA	2,000	
4.....	101-022500	RES 2.2M	10% 1/2W	EA	2,000	
4.....	105-012100	RES 120	05% 2W	EA	1,000	

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG Dwg	VENDOR U/I/O	QTY
885-002300			2090-3C/DISK & DIGITAL I/O			4
	4.....	106-703500	RES .4 05%	10W		1.000
	4.....	106-703600	RES 200M	10% 1W	EA	1.000
	4.....	108-010300	RES 10K	05% 1/4W	EA	1.000
	4.....	108-015300	RES 15K	05% 1/4W	EA	1.000
	4.....	108-022100	RES 220	05% 1/4W	EA	2.000
	4.....	108-027100	RES 270	05% 1/4W	EA	1.000
	4.....	108-033200	RES 3.3K	05% 1/4W	EA	1.000
	4.....	124-702100	REG 5 TO 300	.1A 786UIC E FCH	EA	1.000
	4.....	124-702300	REG 1.2 TO 370	1.5A 317T E NAT	EA	2.000
	4.....	124-702400	REG -1.2TO-370	1.5A 337T E NAT	EA	2.000
	4.....	124-702600	REG 2T038U	,15A LAS1000 A LAN	EA	1.000
	4.....	201-100300	RES 100K	01% 1/8W	PRES	1.000
	4.....	201-124000	RES 1.2K	01% 1/8W	PRES	1.000
	4.....	201-200100	RES 2K	01% 1/8W	PRES	1.000
	4.....	201-200300	RES 200K	01% 1/8W	PRES	1.000
	4.....	201-221400	RES 2.2K	01% 1/8W	PRES	1.000
	4.....	201-249000	RES 24.9	01% 1/8W	PRES	2.000
	4.....	201-249100	RES 2.49K	01% 1/8W	PRES	1.000
	4.....	201-301000	RES 301	01% 1/8W	PRES	1.000
	4.....	201-365000	RES 365	01% 1/8W	PRES	1.000
	4.....	201-492100	RES 4.9K	01% 1/8W	PRES	1.000
	4.....	201-604000	RES 604	01% 1/8W	PRES	1.000
	4.....	201-619200	RES 61.9K	01% 1/8W	PRES	1.000
	4.....	201-825000	RES 825	01% 1/8W	PRES	1.000
3.....		465-001200	2090 REAR PANEL BAY 2		EA	1.000
4.....		015-706300	FIN/350663-6 AMP SPOOL		EA	12.000
4.....		015-706400	FIN/350665-2 AMP SPOOL		EA	12.000
4.....		019-708700	XFORMER/DJ346		EA	1.000
4.....		024-714500	CON/SF CIR/SOL SWC 61HA5F		EA	1.000
4.....		024-714600	CON/5M CIR/SOL SWC 12CLSM		EA	1.000
4.....		024-721400	CON/1F CXL/SOL APH 31-010		EA	2.000
4.....		024-721600	CON/4F REC/CRF AMP 1-350240-9		EA	1.000
4.....		024-723300	CON/2F REC/CRF AMP 1-350354-9		EA	1.000
4.....		024-724600	CON/10F REC/IDF MMN 3473-6000		EA	1.000
4.....		024-726200	CON/6F REC/CRF AMP 1-350241-9		EA	1.000
4.....		024-730800	CONN/15 PIN 1-350237-9		EA	1.000
4.....		025-727500	SW/CW/GF-642		EA	2.000
4.....		068-726608	PAN/2090 REAR BAY 2		EA	1.000
4.....		070-701100	FUSE/348890 BODY		EA	1.000
4.....		070-701200	FUSE/348007 CAP		EA	1.000
4.....		102-700200	MOVISTOR/V130LA10A		EA	2.000
4.....		114-701800	FLTR/6 AMP 6H9 CORCOM		EA	1.000
3.....		465-001300	2090 REAR PANEL BAY 1		EA	1.000
4.....		415-005200	2090 CAP BD P.S. BAY 4		EA	1.000
5.....		000-900106	P.C.B./CAP BD/EXP SERIES		EA	1.000
5.....		015-706300	FIN/350663-6 AMP SPOOL		EA	12.000
5.....		015-706400	FIN/350665-2 AMP SPOOL		EA	12.000
5.....		022-705300	D10 BRID QS647 600V 2A J VAR		EA	2.000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
885-002300		2090-3C/DISK & DIGITAL I/O		1		
	5.....	023-716200	CAP 8800MF 25V ALUM S CAL		EA	2,000
	5.....	023-717500	CAP 28KMF 15V ALUM S MEP		EA	2,000
	5.....	023-719000	CAP 2000MF 50V ALUM S CAL		EA	2,000
	5.....	024-719200	CON/15F REC/CRP AMP 1-350244-9		EA	1,000
	5.....	024-721800	CON/12M REC/CRP AMP 1-350236-9		EA	1,000
	5.....	085-702400	CORD/428-056 ROTRON		EA	1,000
	4.....	475-002500	MECH MISC/BAY 1 F.S.		EA	1,000
	5.....	022-713800	DIO RECT SCOPE5 50V 5A Q SEM	X	EA	1,000
	5.....	068-726706	FAN/2090 REAR BAY 1		EA	1,000
	5.....	072-700100	FAN/WISPER WR2A1		EA	1,000
	5.....	114-702600	FLTR./FAN/PAMOTER#5502		EA	1,000
2.....		645-000500	2090 BAY 3 POWER SUPPLY		EA	1,000
3.....		415-005500	2090 POWER SUPPLY ED BAY 3		EA	1,000
4.....		000-902103	P.C.B./2090 BAY 3 SUPPLY	X	EA	1,000
4.....		006-701400	MASH/NO J TEFLON		EA	4,000
4.....		014-721900	BRKT/THIRD BAY F.S./2090.3	X	EA	2,000
4.....		015-706300	PIN/350663-6 AMP SPOOL		EA	6,000
4.....		021-708800	TRN NFN 2N5301 40V 200W D MOT		EA	2,000
4.....		022-700800	DIO RECT 1N4004 400V 1A 6 TXI		EA	6,000
4.....		022-707100	DIO TRRM 3SM2 200V 2A 6 SEM		EA	4,000
4.....		023-700200	CAP 1000PF 300V 5% MICA R ARC		EA	2,000
4.....		023-704700	CAP 1MF 35V 10%	TANT G KEM	EA	1,000
4.....		023-711000	CAP 22MF 35V 10%	TANT G KEM	EA	4,000
4.....		023-714000	CAP 100MF 50V ALUM G SFG		EA	1,000
4.....		023-716200	CAP 8800MF 25V ALUM S CAL		EA	2,000
4.....		023-717500	CAP 28KMF 15V ALUM S MEP		EA	1,000
4.....		024-719500	CON/9M HDR/SOL AMP 9-350262-4		EA	1,000
4.....		024-726900	CON/6F REC/CRP AMP 1-350241-9		EA	1,000
4.....		026-705400	POT/500 PCB DAL 784-20-501		EA	2,000
4.....		032-700800	INSUL/DIODE		EA	2,000
4.....		098-704700	HT SNN/THM6006B-2-2		EA	1,000
4.....		106-701800	RES .48 40%	2D	EA	1,000
4.....		106-702700	RES .36 05%	2W	EA	1,000
4.....		108-022200	RES 2.2K 05%	1/4W	EA	2,000
4.....		108-027100	RES 270 05%	1/4W	EA	2,000
4.....		121-702400	REG -4.2T0-379 1.5A 3377 E NAT		EA	1,000
4.....		121-702600	REG 2TC339 .15A LAS1000 A LAM		EA	2,000
4.....		201-424000	RES 124 01X 1/8W PRES		EA	1,000
4.....		201-150000	RES 150 01X 1/8W PRES		EA	1,000
4.....		201-200100	RES 2K 01X 1/8W PRES		EA	1,000
4.....		201-301000	RES 304 01X 1/8W PRES		EA	2,000
4.....		201-365000	RES 365 01X 1/8W PRES		EA	1,000
4.....		201-604000	RES 604 01X 1/8W PRES		EA	2,000
4.....		291-681900	RES 68 .4 01X 1/8W PRES		EA	1,000
3.....		475-003100	MECH MISC/BAY 3 F.S.		EA	1,000
4.....		002-706500	PLATE/I/O COVER		EA	1,000
4.....		015-706300	PIN/350663-6 AMP SPOOL		EA	6,000
4.....		015-706400	PIN/350665-2 AMP SPOOL		EA	6,000

X

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	OTY	4
885-002300			2090-3C/DISK & DIGITAL I/O				
	4 . . . . .	019-707700	XFORMER/DG-447 FOREST		EA	1.000	
	4 . . . . .	024-719800	CON/9F REC/CRP AMP 1-350242-9		EA	1.000	
	4 . . . . .	024-727000	CON/6M REC/CRP AMP 1-350234-9		EA	1.000	
	4 . . . . .	068-728003	FAN/20% REAR BAY 3		EA	1.000	
	4 . . . . .	070-703000	FUSE/SLO BLD 3A63		EA	2.000	
	4 . . . . .	845-000400	DISK-B ADD		EA	1.000	
2	4 . . . . .	415-005700	2090 DISK BD		EA	1.000	
3	3 . . . . .	000-901903	PCB/2090		EA	1.000	
3	3 . . . . .	015-701500	FIN/SOC 64173-4		EA	4.000	
3	3 . . . . .	019-707800	INDUCT/NYTRONICS/MEE 0.47UH		EA	1.000	
3	3 . . . . .	022-709400	DIO TRRF 1N4150 50V .2A 6 TXI		EA	1.000	
3	3 . . . . .	023-029200	CAP 22MF 150 10%	TANT 6 KEM	EA	3.000	
3	3 . . . . .	023-700300	CAP 500PF 500V 5%	MICA R ARC	EA	3.000	
3	3 . . . . .	023-702400	CAP .01MF 100V 20%	CERM R SP6	EA	1.000	
3	3 . . . . .	023-710600	CAP 1.0PF 100V 10%	CERM R GLB	EA	1.000	
3	3 . . . . .	023-715100	CAP .05MF 50V	CERM R ARC	EA	6.000	
3	3 . . . . .	024-703600	CON/4F REC/CRP AMP 1-480424-0		EA	1.000	
3	3 . . . . .	024-715900	CON/16F DIP/SOL AMP 640358-3		EA	4.000	
3	3 . . . . .	024-733200	CON/6M HDR/SOL AMP 9-350259-2		EA	1.000	
3	3 . . . . .	024-734000	CONN/TC SOC/20 PIN		EA	3.000	
3	3 . . . . .	024-734400	CON/4F DIP/SOL AMP 640359-3		EA	4.000	
3	3 . . . . .	024-745000	CON/64F DIP/SOL EDY DILBQ64P		EA	1.000	
3	3 . . . . .	025-718000	SW/C + K #8531		EA	1.000	
3	3 . . . . .	026-705700	POT/5K FCB DAL 784-20-502		EA	1.000	
3	3 . . . . .	085-709100	CBL/34 COND/AP 922523-34-99-12		EA	1.000	
3	3 . . . . .	100-700700	RES NET/CSP10E-01-502-1		EA	2.000	
3	3 . . . . .	108-010000	RES 1.0 05% 1/4W		EA	4.000	
3	3 . . . . .	108-010100	RES 1.00 05% 1/4W		EA	1.000	
3	3 . . . . .	108-010200	RES 1K 05% 1/4W		EA	3.000	
3	3 . . . . .	108-010300	RES 10K 05% 1/4W		EA	5.000	
3	3 . . . . .	108-012300	RES 1.2K 05% 1/4W		EA	1.000	
3	3 . . . . .	108-015100	RES 150 05% 1/4W		EA	2.000	
3	3 . . . . .	108-027100	RES 270 05% 1/4W		EA	1.000	
3	3 . . . . .	108-033100	RES 330 05% 1/4W		EA	7.000	
3	3 . . . . .	108-047200	RES 4.7K 05% 1/4W		EA	2.000	
3	3 . . . . .	134-705303	IC/7404N HEX INVERTER		EA	1.000	
3	3 . . . . .	134-712603	IC/74LS00N 2-NAND		EA	4.000	
3	3 . . . . .	134-712903	IC/74LS04N HEX INVERTER		EA	1.000	
3	3 . . . . .	134-713203	IC/74LS74N FLIP-FLOP		EA	8.000	
3	3 . . . . .	134-7146903	IC/74LS14N PRIORITY ENCODER		EA	1.000	
3	3 . . . . .	134-717503	IC/74S138N DEMULTIPLEXER		EA	1.000	
3	3 . . . . .	134-718103	IC/74LS19IN COUNTER		EA	1.000	
3	3 . . . . .	134-720403	IC/74LS02N 2-NOR		EA	3.000	
3	3 . . . . .	134-720503	IC/74LS174N REGISTER		EA	2.000	
3	3 . . . . .	134-720803	IC/74LS14N 3-NAND		EA	1.000	
3	3 . . . . .	134-722005	IC/4040B CMOS 12 STAGE BIN COU		EA	1.000	
3	3 . . . . .	134-722403	IC/74LS139N MULTIPLEXER		EA	1.000	
3	3 . . . . .	134-725303	IC/7406N O/C HEX INVERTER		EA	2.000	

ASSEMBLY  
885-002300LEVEL  
COMPONENTDESCRIPTION  
2090-3C/DISK & DIGITAL, T/O

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG	DWG	VENDOR U/M	QTY
3.....	3.....	134-728803	IC/74S472 PROM	EA	2,000		1
3.....	134-736903	IC/74LS3678 HEX DRIVER	EA	4,000			
3.....	134-734300	IC/990JL PROCESSOR	EA	1,000			
3.....	134-731403	IC/74LS362N CLOCK OPTIVEP	EA	1,000			
3.....	134-731503	IC/74LS259N ADDRESS/HE LAUNCH	EA	3,000			
3.....	134-731603	IC/74LS251N MULTIPLEXER	EA	4,000			
3.....	134-731700	10.241.16-4N 426 X 4 STATIC RAM	EA	4,000			
3.....	134-731803	IC/74LS455N DEMULTIPLEXER	EA	1,000			
3.....	134-731903	IC/74LS395N SHIFT REGISTER	EA	4,000			
3.....	134-732003	IC/74LS92N COUNTER	EA	1,000			
3.....	134-732100	IC/95197 MONOSTABLE	EA	1,000			
3.....	191-705400	CRYSTAL /43MHZ .05X	EA	1,000			
3.....	201-200200	REL 20K 0.1% 1.5W	FRT/S				
3.....	204-250200	RES 25K 0.1% 1.5W	FRT/S				
3.....	465-001500	2090 DISK FRONT PANEL	X				
3.....	000-902001	P.C. BOARD MINI DISK EXP	X				
3.....	011-722403	BRK/DISK EXP	X				
3.....	022-707900	DIO LED FLYING 1.7V 20mA 1.0W	X				
3.....	022-744800	DU LENS 11.9340 2.392mm L 1.0H	X				
3.....	025-715500	SW/6463-014-0001	X				
3.....	025-718400	SW/72193J012ZUL-2 C&K	X				
3.....	025-749600	SW/7101J60 C&K	X				
3.....	045-703304	KNOB/KNOB 1.632 1.630	X				
3.....	068-727806	PAN/2090 DISK FRONT	X				
3.....	068-740901	PAN/2090 DISK FRONT 21W	X				
3.....	085-709000	CBL/34 CABLE OF 9225 1.44-90 90	X				
2.....	475-001300	2090 DISK MCH 0227	X				
3.....	020-762700	CHAS/2090 DISK SLIDE	X				
3.....	034-715200	GUIDE/STRETCH 1.633 1	X				
3.....	222-509000	DISC. DIA 1.62 SHOCKED 1.63, 1.60	X				
3.....	270-700800	DISC. DIA 1.62 1.60	X				
4.....	845-000700	DIGITAL I/O 6 ADD	X				
2.....	415-006800	I/O DIN CAPP	X				
3.....	000-902404	P.C. BOARD CARD/2090-3	X				
3.....	041-711000	BLKT/CAP 1.63 1.63	X				
3.....	134-715303	IC/74384 0.1% 1.63M	X				
2.....	415-007400	2090 RIBBON 1.63 01	X				
3.....	000-790200	PTR/2090 1.63	X				
3.....	045-706400	PIN/350000 2. MM 24 OUT	X				
3.....	023-706200	CAP 10.501W 3.679 2.5MM 1.63	X				
3.....	023-702400	CAP 7.01W 1.63 1.63	X				
3.....	023-711400	CAP 4.10W 1.63 1.63	X				
3.....	024-723400	COP 12M HDR. 21W 1.63 1.63	X				
3.....	024-726800	COP 12M REC. 21W 1.63 1.63	X				
3.....	024-733200	COP 12M HDR. 21W 1.63 1.63	X				
3.....	024-734900	COP 12M 200.700 1.63	X				
3.....	024-737200	CONN/56PIN/AMP 879C7-2	X				
3.....	085-707700	CBL/50 COND. 1.63 SPEC	X				

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG Z <sub>00</sub>	VENCODE U/M	QTY
885-002300			2090-30/DISK & DIGITAL I/O			1
	3 . . . . .	100-700700	RES NET/CSP10E-04-502J	EA		2,000
	3 . . . . .	108-010300	RES 10K 05% 1/4W	EA		4,000
	3 . . . . .	108-033400	RES 330 05% 1/4W	EA		1,000
	3 . . . . .	134-712803	IC/74LS00N 2-NAND	EA		3,000
	3 . . . . .	134-712903	IC/74LS04N HEX INVERTER	EA		3,000
	3 . . . . .	134-713203	IC/74LS74N FLIP-FLOP	EA		4,000
	3 . . . . .	134-713703	IC/74LS253N MULTIPLEXER	EA		1,000
	3 . . . . .	134-745303	IC/7438N O/C 2-NAND	EA		2,000
	3 . . . . .	134-748803	IC/74LS475N REGISTER	EA		3,000
	3 . . . . .	134-720403	IC/74LS02N 2-NOR	EA		2,000
	3 . . . . .	134-720503	IC/74LS174N REGISTER	EA		5,000
	3 . . . . .	134-724203	IC/74LS163N COUNTER	EA		2,000
	3 . . . . .	134-722403	IC/74LS139N MULTIPLEXER	EA		4,000
	3 . . . . .	134-723003	IC/74LS14N HEX INVERTER	EA		4,000
	3 . . . . .	134-723903	IC/74LS257 MULTIPLEXER	EA		6,000
	3 . . . . .	134-728803	IC/74S472 FROM	EA		2,000
	3 . . . . .	134-730903	IC/74LS367N HEX DRIVER	EA		4,000
	3 . . . . .	134-731003	IC/74LS138N MULTIPLEXER	EA		2,000
	3 . . . . .	134-731903	IC/74LS395N SHIFT REGISTER	EA		4,000

ASSEMBLY  
885-002700

LEVEL

COMPONENT

ENG DWG

VENDOR U/M

QTY

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR U/M	QTY
4	4	415-002700	208A GPTB I/O BD			1,000
2	4	000-904102	PCB/GP IR BD/208A			1,000
2	4	022-709400	D10 TRRF 1N4150 50V .2A 6 TIX			2,000
2	4	023-0029200	CAP 22MF 15V 10% TANT 6 FEM			1,000
2	4	023-700300	CAP 500PF 500V 5% MICA R ARC			2,000
2	4	023-711100	CAP 4.7MF 100V 10% TANT 6 FEM			1,000
2	4	023-715100	CAP .95MF 50V CERM R AEL			3,000
2	4	024-737200	CONN/56PIN/AMP 67907.3			1,000
2	4	024-742200	CONN/AMP 552230-4			1,000
2	4	025-731800	SU/TH 4P18 AM 1-435669-8 X			1,000
2	4	025-731800	FASTNER/CUN/HOD AMP 5522633-2			1,000
2	4	100-700700	RES NET. CSPIGE Q1-502J			1,000
2	4	108-010100	RES 100Ω 0% 1/4W			2,000
2	4	134-712803	IC/74LS00N 2-NAND			1,000
2	4	134-712903	IC/74LS04D HEX INVERTER			1,000
2	4	134-743203	IC/74LS74N FLIP FLOP			2,000
2	4	134-718803	IC/74LS175N REGISTER			2,000
2	4	134-720403	IC/74LS02N 2-NOR			1,000
2	4	134-722703	IC/74LS02N 3-NOR			1,000
2	4	134-731503	IC/74LS02N 6INPUT 2ABLE LATCH			1,000
2	4	134-731603	IC/74LS254D MULTICAP			2,000
2	4	134-740903	IC/74LS245N OCTAL BUFFER			1,000
2	4	134-742400	IC/3446-455 TRANSISTOR			4,000
1	4	415-009200	308A 82 I/O 440			1,000
2	4	000-904204	PCB/208A/82 1-67103			1,000
2	4	014-721090	BAT 1/PWR 2PAK MIL/220399			1,000
2	4	014-725701	BAT 1/MT6/20083			3,000
2	4	015-706400	PIN/350620-3 AMP 200mA			1,000
2	4	019-707800	INDUCT/NYTRONICS/WEE 0-370H			1,000
2	4	022-709400	D10 THT 1N4150 50V .2A 6 TIX			1,000
2	4	023-0029200	CAP 22MF 15V 10% TANT 6 FEM			4,000
2	4	023-710000	COP 4.7MF 100V 10% TANT 6 FEM			1,000
2	4	023-711400	COP 4.7MF 100V 10% TANT 6 FEM			1,000
2	4	023-715100	COP 4.7MF 100V 10% TANT 6 FEM			1,000
2	4	024-721300	COP 4.7MF 100V 10% TANT 6 FEM			1,000
2	4	024-726900	CON/10P 10P 10P 10P 10P 10P			1,000
2	4	024-733700	CON/10P 10P 10P 10P 10P 10P			1,000
2	4	024-754600	CONN/TC 10P 10P 10P 10P 10P			1,000
2	4	024-734300	CON/18F 14P 14P 14P 14P 14P			4,000
2	4	025-740600	SW/T 7P 7P 7P 7P 7P 7P			1,000
2	4	108-010600	RIG 100Ω 0% 1/4W			4,000
2	4	108-010700	RIG 100Ω 0% 1/4W			1,000
2	4	108-010800	RIG 10Ω 0% 1/4W			1,000
2	4	108-010900	RIG 1Ω 0% 1/4W			1,000
2	4	108-011000	RIG 100Ω 0% 1/4W			1,000
2	4	108-011100	RIG 10Ω 0% 1/4W			1,000
2	4	108-011200	RIG 1Ω 0% 1/4W			1,000
2	4	108-012300	RIG 100Ω 0% 1/4W			1,000
2	4	108-047100	RIG 3.3Ω 0% 1/4W			1,000
2	4	134-712803	IC/74LS00D 2-BOARD			1,000
2	4	134-713203	IC/74LS74D PLIP/CLIP			1,000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG	DWG	VENDOR	U/M	QTY
885-002700		NIC 2084						1
	2	134-7146903	IC/74148N PRIORITY ENCODER			EA		1,000
	2	134-718803	IC/74LS175N REGISTER			EA		3,000
	2	134-720403	IC/74LS02N 2-NOR			EA		1,000
	2	134-728803	IC/74LS472 FROM			EA		1,000
	2	134-731300	IC/9900JL PROCESSOR			EA		1,000
	2	134-731403	IC/74LS362N CLOCK DRIVER			EA		1,000
	2	134-731503	IC/74LS259N ADDRESSABLE LATCH			EA		2,000
	2	134-731603	IC/74LS254N MULTIPLEXER			EA		1,000
	2	134-731700	IC/2111A-4N 256 X 4 STATIC RAM			EA		4,000
	2	134-731803	IC/74LS155N DEMULTIFLEXER			EA		1,000
	2	134-736803	IC/74LS374N REGISTER			EA		1,000
	2	134-739403	IC/74LS24AN OCTAL BUFFER			EA		3,000
	2	134-741400	IC/27416 MOS EEPROM			EA		2,000
	2	191-705400	CRYSTAL /48MHZ/.05%			EA		1,000
	4	475-003200	2081 MECH ASSY			EA		1,000
	2	042-748504	COVER/2081 I/O	X		EA		1,000
	2	093-701900	FASTRNR/BUT HD. SCR.			EA		4,000
	2	123-706900	HDWR MISC/KNUFL SER. RAF598-SS			EA		3,000
	2	123-707000	HDWR MISC/RET.RING/RAF1058-SS			EA		3,000

ASSEMBLY  
885-002900LEVEL  
COMPONENT  
2082/RS232C I/O.DESCRIPTION  
EMG DB9 QNDOR U/M QTY  
4

1	405-001600	2082/CABLE	EA	1,000
2	085-900300	CBL/2082 RS-232-C INTERCONNECT	EA	1,000
1	415-009200	2081/82 I/O CPU	EA	1,000
2	000-904204	PCB/2081/82 I/O CPU	EA	1,000
2	041-721000	BKT/PAR SPLY HTG/2090	X	X
2	041-725701	BKT/MTG/2081	X	X
2	045-706400	PIN/350665-2 6MF SPOOL	EA	1,000
2	049-707800	INDUCT/NYTRONICS/WEE Q 47UH	EA	1,000
2	022-709400	DIO TRRF AN4150 50V .2A 6 TXT	EA	1,000
2	023-029200	CAP 22MF 15V 10%	TANT G KEM	4,000
2	023-710600	CAP 10PF 1000V 10%	CERM R CLB	1,000
2	023-711400	CAP 4.7NF 40V 10%	TANT G KEM	4,000
2	023-715100	CAP .05MF 50V	CERM R ARC	4,000
2	024-721300	CON/24F DIP/SOL AMP 640361-3	EA	2,000
2	024-726900	CON/6F REC/CRP AMP 1-350241-9	EA	1,000
2	024-733200	CON/6M HDE/SOL AMP 9-350259-2	EA	1,000
2	024-734000	CONN/IC SOC/20 PIN	EA	6,000
2	024-734400	CON/18F DIP SOL AMP 640359-3	EA	1,000
2	025-716000	SW/C + K #8531	EA	1,000
2	108-010000	RES 10 05X 1/4W	LA	1,000
2	108-010000	RES 100 05X 1/4W	EA	4,000
2	108-010100	RES 1K 05X 1/4W	EA	1,000
2	108-010200	RES 10K 05X 1/4W	EA	1,000
2	108-010300	RES 100K 05X 1/4W	EA	1,000
2	108-012300	RES 4.2K 05X 1/4W	EA	1,000
2	108-017200	RES 4.7K 05X 1/4W	EA	3,000
2	134-712803	IC/74LS00N 2-NAND	EA	1,000
2	134-713203	IC/74LS74N FLIP-FLOP	EA	1,000
2	134-716903	IC/74148N PRIORITY ENCODER	EA	1,000
2	134-718803	IC/74LS175N REGISTER	EA	3,000
2	134-720403	IC/74LS02N 2-NOP	EA	1,000
2	134-729803	IC/74S472 FROM	EA	1,000
2	134-731300	IC/9900JL PROCESSOR	EA	1,000
2	134-731403	IC/74LS362N CLOCK DRIVER	FA	1,000
2	134-731503	IC/74LS259N ADDRESSABLE LATCH	EA	2,000
2	134-731603	IC/74LS251N MULTIPLEXER	EA	1,000
2	134-7734700	IC/2414A-4N 256 X 4 STATIC RAM	EA	4,000
2	134-7734803	IC/74LS155N DYNAMIC TPLEXER	EA	1,000
2	134-7736803	IC/74LS374N REGULATOR	EA	1,000
2	134-7739403	IC/74LS244N OCIAL BUFFER	EA	3,000
2	134-7741400	IC/2716 MOS EEPROM	EA	2,000
2	191-705400	CRYSTAL/48MHZ/.05%	EA	1,000
2	415-009900	2082/ I/O BOARD	EA	1,000
4	000-904502	FCB/2082 I/O	X	X
2	019-709300	INDUCT/40 UH @ 100 MA BIAS	EA	2,000
2	019-709400	INDUCT/360 UH @ 100 MA BIAS	EA	1,000
2	022-709400	DIO TRRF AN4150 50V .2A U TXI	EA	2,000
2	023-029200	CAP 22MF 15V 10% TANT G KEM	EA	4,000
2	023-709400	CAP 100PF 500V 5% MILCA R ARC	EA	4,000

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG	DWG	VENDOR	U/M	QTY
885-002900			2082/RS232C I/O.					1
	2.....	023-714000	CAP 22MF 35V 10%	TANT	G	KEM	EA	1,000
	2.....	023-714100	CAP 4.7MF 10V 10%	TANT	G	KEM	EA	1,000
	2.....	023-715100	CAP .05MF 50V	CERM	R	ARC	EA	6,000
	2.....	024-723100	CON/25F REC/SOL AMP	205738-1	EA	1,000	EA	1,000
	2.....	024-723200	CON/25M REC/SOL AMP	205737-1	EA	1,000	EA	1,000
	2.....	024-734400	CON/18F DIP/SOL AMP	640359-3	EA	1,000	EA	1,000
	2.....	024-737200	CONN/56PIN/AMP	67907-3	EA	1,000	EA	1,000
	2.....	025-721100	SW/ALCO MSS-4200		EA	1,000	EA	1,000
	2.....	025-734800	SW/TH 1P1T8 AM	1-435668-8	EA	1,000	EA	1,000
	2.....	054-700700	BUMPER/SJ-5017		EA	2,000	EA	2,000
	2.....	093-702100	FASTER/SCR LOCK		EA	2,000	EA	2,000
	2.....	100-700700	RES NET/CSP4OE-04-502J		EA	1,000	EA	1,000
	2.....	101-010900	RES 4 .10%	4/2W	EA	1,000	EA	1,000
	2.....	134-742803	IC/74LS00N 2-NAND		EA	1,000	EA	1,000
	2.....	134-743203	IC/74LS74N FLIP-FLOP		EA	1,000	EA	1,000
	2.....	134-731503	IC/74LS259N ADDRESSABLE LATCH		EA	1,000	EA	1,000
	2.....	134-731603	IC/74LS254N MULTIPLEXER		EA	2,000	EA	2,000
	2.....	134-741503	IC/497AC SWITCHING VOLT REG		EA	1,000	EA	1,000
	2.....	134-741600	IC/9902 CRU UART		EA	1,000	EA	1,000
	2.....	134-741703	IC/75188 QUAD LINE DRIVER		EA	2,000	EA	2,000
	2.....	134-741803	IC/75189 QUAD LINE RECEIVER		EA	2,000	EA	2,000
	2.....	204-110200	RES 4.4K .01%	1/8W	FRES	1,000	EA	1,000
	2.....	204-127100	RES 1.27K .01%	1/8W	FRES	1,000	EA	1,000
	4.....	475-003600	2082/ MECH ASSY		EA	1,000	EA	1,000
	2.....	042-7419502	COVER/2082 I/O		EA	1,000	EA	1,000
	2.....	093-701200	FASTRNR/BUT HD, SCR,		EA	4,000	EA	4,000
	2.....	123-706900	HDWR MISC/KNURL SER.	RAF598-SS		3,000	EA	3,000
	2.....	123-707000	HDWR MISC/RET,RING/RAF1058-SS			3,000	EA	3,000

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ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VEN/DUR U/W	GTY
845-000900		2085 CAL 1/0				1
	1 . . . . .	445-007500	CALCULATOR BD/2085	EA	4,000	
	2 . . . . .	000-902604	PCB/2085 CALCULATOR	EA	1,000	
	2 . . . . .	022-701400	DIO GERM 1N270 80V .2A 0 ITT	EA	1,000	
	2 . . . . .	023-700300	CAP 500PF 500V 5% MICAR ARC	EA	1,000	
	2 . . . . .	024-737200	CORN/56FTN/AMP 67907.3	EA	1,000	
	2 . . . . .	085-705800	CBL/980320 H.P.	EA	1,000	
	2 . . . . .	100-701700	RES NET/BECK 785-5-R-220/339	EA	2,000	
	2 . . . . .	108-015400	RES 450 0.5% 1/4W	EA	1,000	
	2 . . . . .	108-022400	RES 320 0.5% 1/4W	EA	1,000	
	2 . . . . .	108-027100	RES 270 0.5% 1/4W	EA	1,000	
	2 . . . . .	108-033100	RES 330 0.5% 1/4W	EA	1,000	
	2 . . . . .	134-702703	IC/74121N MONOSTABLE	EA	1,000	
	2 . . . . .	134-731803	IC/74LS155N DEMULTIPLEXER	EA	1,000	
	1 . . . . .	475-002800	MECH MISC/2085	EA	1,000	
	2 . . . . .	042-713200	COVER/CAL.I/O/9825A CAL	EA	1,000	
	2 . . . . .	093-702400	FASTNR/SCR 6-32 X 1/4" BLK	EA	4,000	
	2 . . . . .	123-706900	HDWR MISC/KNURL SER. RAF598-SG	EA	3,000	
	2 . . . . .	123-707000	HDWR MISC/RET.RING/RAF1058-SS	EA	3,000	

ASSEMBLY	LEVEL	COMPONENT	DESCRIPTION	ENG DWG	VENDOR	U/M	QTY
845-0000300		OPTION 003					1
	1	415-006900	I/O BD/DFT 003				1.000
	2	000-902502	PCB/2090 I/O ACC				1.000
	2	024-713000	CON/50M HDR/IDP MM 3426-0000				2.000
	2	024-713500	CONN/3425-0000				2.000
	2	024-737200	CONN/56P-IN/AMP 67907.3				1.000
	2	100-701700	RES NET/BECK 785-5-R-2220/330				3.000
	2	108-022100	RES 220 05% 1/4W				1.000
	2	108-033100	RES 330 05% 1/4W				1.000
	1	475-002700	MECH MISC/DFT. 003				1.000
	2	042-711502	COVER/1/0/002-003				1.000
	2	093-701900	FASTNR/BUT HD. SCR.				4.000
	2	123-706900	HDWR MISC/KNURL SER. RAF598-SS				3.000
	2	123-707000	HDWR MISC/RET.RING/RAF1058-SS				3.000





