

SEMICONDUCTOR IDENTIFICATION CHARTS

This section is divided into two parts: "Component Number Index" and "Part Number Index." The Component Number Index provides a cross-reference between Circuit Component Numbers and their respective Heath Part Numbers. The component numbers

are listed in numerical order. The Part Number Index provides a lead configuration detail (basing diagram) for each semiconductor part number. The Heath Part Numbers in this section are also listed in numerical order.

COMPONENT NUMBER INDEX

This index shows the Heath Part Number for each semiconductor in the IO-4205 Oscilloscope.

DIODES

CIRCUIT COMPONENT NUMBER	HEATH PART NUMBER
D103A	
D101A, B-D106A,B	56-56
D107	56-67
D108A, B;D109A,B	56-56
D111A,B; D112A,B	56-56
D113-D116	56-89
D201	56-56
D204	56-56
D205	56-67
D206	56-59
D207-D210	56-56
D211	56-67

CIRCUIT COMPONENT NUMBER	HEATH PART NUMBER
D213,D214	56-56
D301, D302	57-52
D303, D310	57-27
D311	56-634
D312	56-56
D313	56-89
D314	56-26
D315, D316	56-56
D317	56-634
D318, D321	56-56

TRANSISTORS

CIRCUIT COMPONENT NUMBER	HEATH PART NUMBER
D101A,B; D102A,B	417-854
Q101A,B; Q102A,B	471-902
Q103A,B	417-801
Q104A,B; Q105A,B	417-260
Q106A,B; Q109A,B	417-235
Q111A,B; Q112A,B	417-293
Q113, Q114	417-237
Q115, Q116	417-834
Q117, Q118	417-801
Q201	417-902
Q202	417-801
Q203, Q204	417-235
Q205, Q206	417-801
Q207, Q208	417-902
Q209, Q210	417-134
Q211	417-801
Q212, Q213	417-134
Q214, Q215	417-834
Q216	417-154
Q217	417-134
Q301, Q302	417-237
Q303, Q304	417-811
Q305	417-295
Q306, Q307	417-811

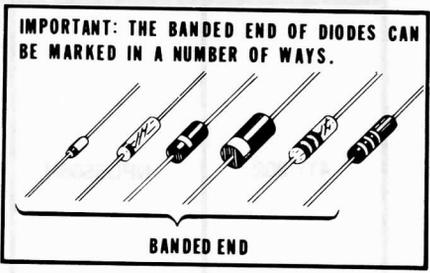
INTEGRATED CIRCUITS

CIRCUIT COMPONENT NUMBER	HEATH PART NUMBER
U101	443-1
U102	443-4
U201	443-6
U202	443-625
U203	443-23
U204	443-44
U205	443-22
U301, U302	442-617
U303	442-618

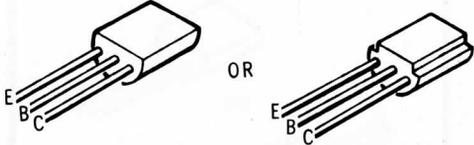
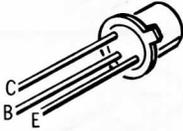
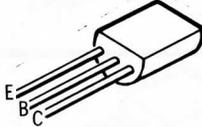
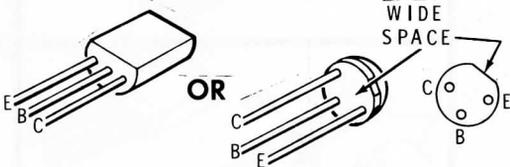
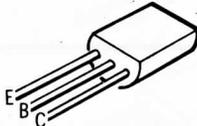
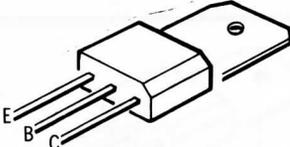
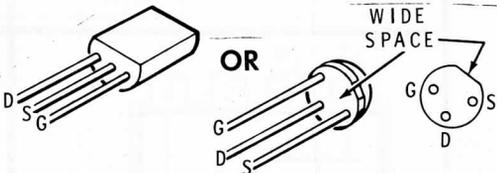
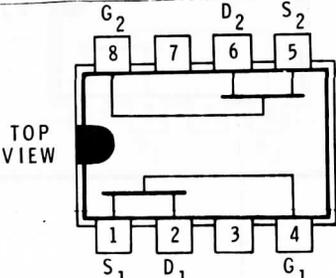
PART NUMBER INDEX

This index shows a lead configuration detail (basing diagram) for each semiconductor part number.

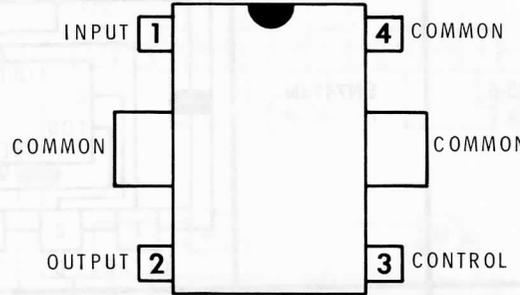
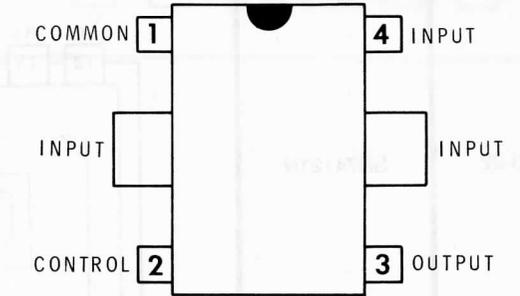
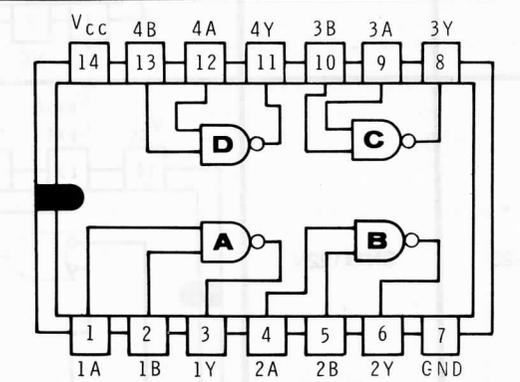
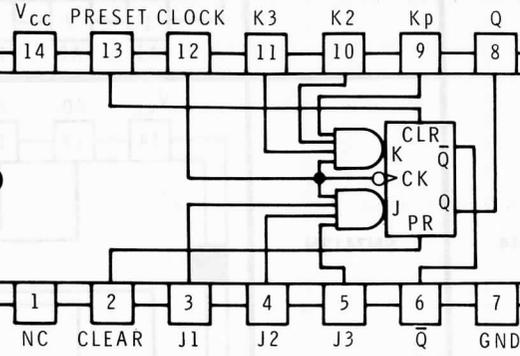
DIODES

HEATH PART NUMBER	MAY BE REPLACED WITH	IDENTIFICATION
56-26	1N191	<p>IMPORTANT: THE BANDED END OF DIODES CAN BE MARKED IN A NUMBER OF WAYS.</p>  <p>BANDED END</p>
56-56	1N4149	
56-59	1N750A	
56-67	VR10A	
56-89	GD510	
56-634	2EZ82D5	
57-27	1N2071	
57-52	DO-7	

TRANSISTORS

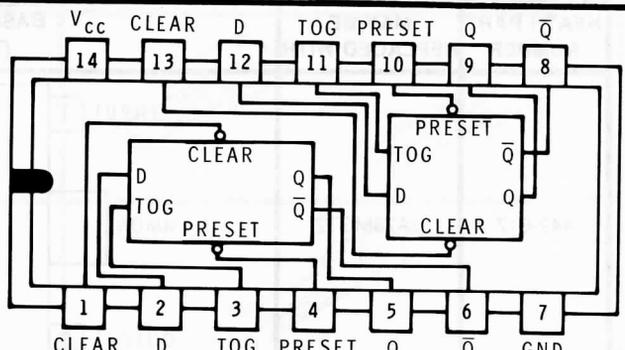
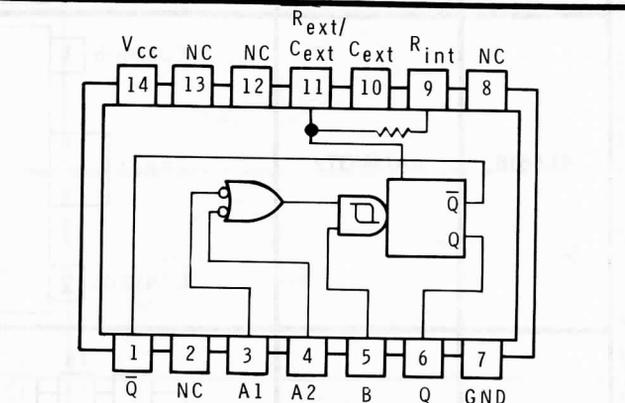
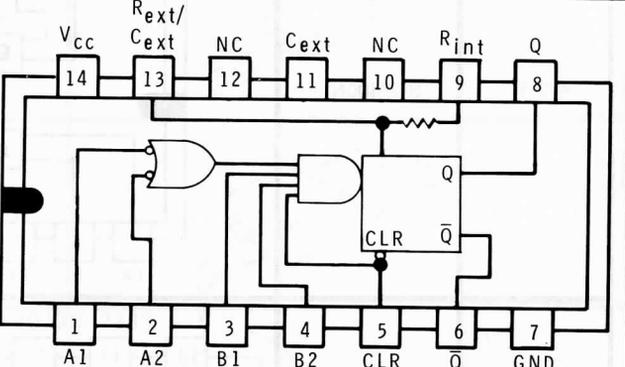
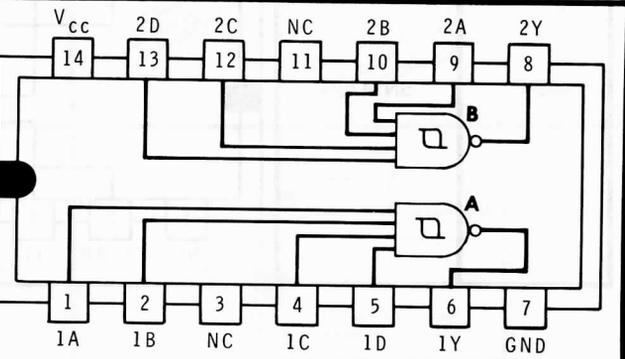
HEATH PART NUMBER	MAY BE REPLACED WITH	IDENTIFICATION
417-134	MPS6520	
417-154	2N2369	
417-235 417-237	2N4121 SE6020	
417-260	2N4258A	
417-293 417-295 417-801 417-811	2N5770 MPSL51 MPSA20 MPSL01	
417-834	MPSU10	
417-854	SELECTED	
417-902	NPD5566N	

INTEGRATED CIRCUITS

HEATH PART NUMBER	MAY BE REPLACED WITH	BASING DIAGRAM (TOP VIEW)
442-617	μ A78MGT2	 <p>INPUT 1 4 COMMON COMMON COMMON OUTPUT 2 3 CONTROL</p>
442-618	μ A79MGT2	 <p>COMMON 1 4 INPUT INPUT INPUT CONTROL 2 3 OUTPUT</p>
443-1	SN7400N	 <p>V_{CC} 4B 4A 4Y 3B 3A 3Y 14 13 12 11 10 9 8 1 2 3 4 5 6 7 1A 1B 1Y 2A 2B 2Y GND</p>
443-4	SN7472N	 <p>V_{CC} PRESET CLOCK K3 K2 Kp Q 14 13 12 11 10 9 8 1 2 3 4 5 6 7 NC CLEAR J1 J2 J3 Q-bar GND</p>

TTL
J-K Master Slave
Flip-flop

Integrated Circuits (Cont'd).

HEATH PART NUMBER	MAY BE REPLACED WITH	BASING DIAGRAM (TOB VIEW)
443-6	SN7474N	
443-22	SN74121N	
443-23	SN74122N	
443-44	SN7413N	



Integrated Circuits (Cont'd.)

HEATH PART NUMBER	MAY BE REPLACED WITH	BASING DIAGRAM (TOP VIEW)
443-625	SN74132N	<p>The basing diagram shows a 14-pin integrated circuit. Pin 14 is labeled VCC and pin 7 is labeled GND. The internal circuit consists of four inverters labeled A, B, C, and D. Inverter A has its input at pin 2 and output at pin 3. Inverter B has its input at pin 5 and output at pin 6. Inverter C has its input at pin 9 and output at pin 8. Inverter D has its input at pin 12 and output at pin 11. The power supply is connected to pin 14 (VCC) and pin 7 (GND).</p>

FOR PARTS REQUESTS ONLY

- Be sure to follow instructions carefully.
- Use a separate letter for all correspondence.
- Please allow 10 - 14 days for mail delivery time.

DO NOT WRITE IN THIS SPACE

INSTRUCTIONS

- Please print all information requested.
- Be sure you list the correct **HEATH** part number exactly as it appears in the parts list.
- If you wish to prepay your order, mail this card and your payment in an envelope. Be sure to include 10% (25¢ minimum, \$3.50 maximum) for insurance, shipping and handling. Michigan residents add 4% tax.

Total enclosed \$ _____

- If you prefer COD shipment, check the COD box and mail this form. COD

NAME _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

The information requested in the next two lines is not required when purchasing nonwarranty replacement parts, but it can help us provide you with better products in the future.

Model # _____ Invoice # _____

Date _____ Location _____
Purchased _____ Purchased _____

LIST HEATH PART NUMBER	QTY.	PRICE EACH	TOTAL PRICE

TOTAL FOR PARTS _____

HANDLING AND SHIPPING _____

MICHIGAN RESIDENTS ADD 4% TAX _____

TOTAL AMOUNT OF ORDER _____

SEND TO: **HEATH COMPANY**
BENTON HARBOR
MICHIGAN 49022
ATTN: PARTS REPLACEMENT

Phone (Replacement parts only): 616 982-3571

THIS FORM IS FOR U.S. CUSTOMERS ONLY
OVERSEAS CUSTOMERS SEE YOUR DISTRIBUTOR

FOR PARTS REQUESTS ONLY

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CUT ALONG DOTTED LINE

REPLACEMENT PARTS

Please provide complete information when you request replacements from either the factory or Heath Electronic Centers. Be certain to include the **HEATH** part number exactly as it appears in the parts list.

ORDERING FROM THE FACTORY

Print all of the information requested on the parts order form furnished with this product and mail it to Heath. For telephone orders (parts only) dial 616 982-3571. If you are unable to locate an order form, write us a letter or card including:

- Heath part number.
- Model number.
- Date of purchase.
- Location purchased or invoice number.
- Nature of the defect.
- Your payment or authorization for COD shipment of parts not covered by warranty.

Mail letters to: Heath Company
Benton Harbor
MI 49022
Attn: Parts Replacement

Retain original parts until you receive replacements. Parts that should be returned to the factory will be listed on your packing slip.

OBTAINING REPLACEMENTS FROM HEATH ELECTRONIC CENTERS

For your convenience, "over the counter" replacement parts are available from the Heath Electronic Centers listed in your catalog. Be sure to bring in the original part and purchase invoice when you request a warranty replacement from a Heath Electronic Center.

TECHNICAL CONSULTATION

Need help with your kit? — Self-Service? — Construction? — Operation? — Call or write for assistance. you'll find our Technical Consultants eager to help with just about any technical problem except "customizing" for unique applications.

The effectiveness of our consultation service depends on the information you furnish. Be sure to tell us:

- The Model number and Series number from the blue and white label.
- The date of purchase.
- An exact description of the difficulty.
- Everything you have done in attempting to correct the problem.

Also include switch positions, connections to other units, operating procedures, voltage readings, and any other information you think might be helpful.

Please do not send parts for testing, unless this is specifically requested by our Consultants.

Hints: Telephone traffic is lightest at midweek — please be sure your Manual and notes are on hand when you call.

Heathkit Electronic Center facilities are also available for telephone or "walk-in" personal assistance.

REPAIR SERVICE

Service facilities are available, if they are needed, to repair your completed kit. (Kits that have been modified, soldered with paste flux or acid core solder, cannot be accepted for repair.)

If it is convenient, personally deliver your kit to a Heathkit Electronic Center. For warranty parts replacement, supply a copy of the invoice or sales slip.

If you prefer to ship your kit to the factory, attach a letter containing the following information directly to the unit:

- Your name and address.
- Date of purchase and invoice number.
- Copies of all correspondence relevant to the service of the kit.
- A brief description of the difficulty.
- Authorization to return your kit COD for the service and shipping charges. (This will reduce the possibility of delay.)

Check the equipment to see that all screws and parts are secured. (Do not include any wooden cabinets or color television picture tubes, as these are easily damaged in shipment. Do not include the kit Manual.) Place the equipment in a strong carton with at least **THREE INCHES** of *resilient* packing material (shredded paper, excelsior, etc.) on all sides. Use additional packing material where there are protrusions (control sticks, large knobs, etc.). If the unit weighs over 15 lbs., place this carton in another one with 3/4" of packing material between the two.

Seal the carton with reinforced gummed tape, tie it with a strong cord, and mark it "Fragile" on at least two sides. Remember, the carrier will not accept liability for shipping damage if the unit is insufficiently packed. Ship by prepaid express, United Parcel Service, or insured Parcel Post to:

Heath Company
Service Department
Benton Harbor, Michigan 49022

HEATH

Schlumberger

HEATH COMPANY • BENTON HARBOR, MICHIGAN
THE WORLD'S FINEST ELECTRONIC EQUIPMENT IN KIT FORM