

60c ■ FEB. 1971

Radio-Electronics®

FOR MEN WITH IDEAS IN ELECTRONICS

New Way To Select Replacement Transistors

Microwave Ovens—A Look Inside

622344 JNK B0023R96 DEC72 1 A
02 4
ROBERT J JENKINS
BX 23
BROKEN BOW OK 74728

A
GERNSBACK
PUBLICATION

**BUILD: Low-Cost IC Audio Generator
Darkroom Temperature Monitor • Pocket Peeper**

Designing Hi-Fi Amplifiers

NOTEWORTHY CIRCUIT

SCR TOOL-SPEED CONTROL

This SCR control unit (see diagram) effectively slows down the speed of an electric drill, sander or other item around the home workshop, that has a universal, commutator-brush-type ac/dc motor. It's also handy for cutting down the input voltage to a transformer; for dimming incandescent lamps, etc.

carry the maximum current you want to control. You can use the G-E C15B or up to 3 amps and the C37B for up to 8 amps. Be sure to use an adequate heat sink for the SCR. It dissipates quite a bit of heat when the circuit is adjusted for dim lights or slow-speed operation.

The value of R1 may be altered if the minimum speed of the tool is too slow. Try values from 22 to 68

FREE!

Lafayette's
1971
Golden Jubilee
Catalog



50th
LRE
Anniversary

468 PAGES

Your 1st Guide
To Everything
in Electronics

- Stereo/Hi-Fi Components • Musical Instruments and Amplifiers
- Photography Equipment • Ham and CB Gear • Public Address Systems
- Tools and Test Equipment • Educational and Optical Equipment
- Black and White/Color Televisions • Police and Fire Monitor Receivers • Books and Parts

Plus Thousands of Additional Items



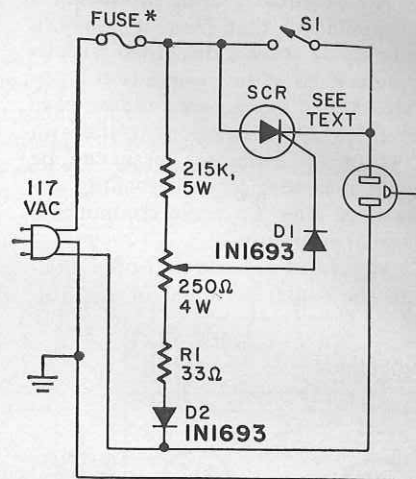
Send For Your Free 1971 Lafayette Catalog Today!

LAFAYETTE Radio ELECTRONICS Dept. 17021
P. O. Box 10, Syosset, L. I., N. Y. 11791

Mail This
Coupon Today
For Your
1971 Catalog
No. 710

Send Me the Free Lafayette Golden Jubilee 1971 Catalog 710
Name 17021
Address
City
State Zip
(Please include your zip code)

Circle 74 on reader service card



*TO MATCH SCR AND CIRCUIT LOAD CURRENT

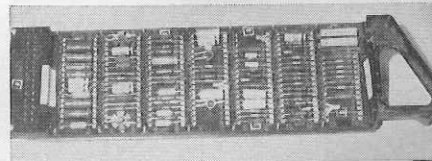
ohms. A small 75-ohm pot could also be used for this resistor. Switch S1 bypasses control unit.—Bob Lange R-E

WHAT DO YOU DO WITH A LASER?
If you don't know, turn back to page 43 and find out. In this continuing series of articles on lasers you'll find a complete section on today's applications for lasers.

LIGHT ACTIVATED SCRS

STOCK	PRV	PRICE
B4116	60	1.00
B4117	100	1.95
B4118	200	2.50
B4119	300	3.50

HONEYWELL COMPUTER BOARDS



Honeywell Computer boards, 4 1/2" x 12". Transistors, diodes, zeners, capacitors, precision resistors, heat sinks, trimmers etc. 2 Different boards \$1.00. Stock No. B9082.

Stock No. B9040

Honeywell Boards 5 1/2" x 6". Loaded with late no. transistors, diodes, resistors and capacitors. 2 different boards \$1.25.

COMPUTER GRADE CAPACITORS

B2040 Sangamo or Pyramid 4 1/4" x 1 3/4" 4000 MFD 50V65 5/3.00

\$1.00 FREE WITH \$10.00 ORDER
MINIMUM ORDER 3.00

Lots of other items—send for free flier; all merchandise fully guaranteed. Please include postage; excess will be refunded.



BOX 1, LYNN, MASSACHUSETTS 01903
Circle 79 on reader service card
RADIO-ELECTRONICS

R-E's Logic Laboratory

HERE IS A COMPLETE LIST OF ALL PARTS required to assemble R-E's Logic Laboratory (December 1970 and January 1971). As well as individual parts lists, you will find a separate list of suppliers for some of the more exotic elements. At the end of this section you will find a listing of various groups of parts and printed-circuit boards that can be used to assemble the lab.

In the months to come we will present an assortment of experiments that can be performed with the completed unit. If there are any particular arrangements you would like to see, let us know and we'll pass them on to the author.

SUPPLIERS ADDRESSES

SPECTRA-STRIP CORPORATION
P.O. Box 415
Garden Grove, California 92642
Part Number SS-3026-7B (30 conductors, #26 AWG, 7 strands, type B insulation, Spectra-Strip flat ribbon cable).

MURA CORPORATION
355 Great Neck Road
Great Neck, N.Y. 11021
Model L-6/50 lamps with round lens caps

CALECTRO, GC Electronics
Division of Hydrometals, Inc.
400 South Wyman Street
Rockford, Illinois 61101
Part #E2-118 miniature DPDT toggle switches

MARK EYELET & STAMPING INC.
Wakelee Road, Route 69
Wolcott, Connecticut 06716
Mark Part Number M-843F eyelets, tin plated

SCHRY-WAY CASES
2211 E. Walnut Street
Pasadena, California 91107
Case Model L1P-12-9-4-3/1 with split hinges on left side, narrow dimension horizontal, catch on right side looking at front, handle centered top (12") four rubber feet on bottom of large section. Include four corner mounting blocks.

CASE PARTS LIST

- 12.75 x 9.75 x 4.5 inch hardwood case.
- Type 7486 3-wire male base for power.
- Type 7484 3-wire female connector and a 3-wire line cord. Assembled, these will make the 120-volt ac power cord. Glue, paint, sandpaper and similar material to finish as desired.
- Calectro Catalog #N4-057 power supply (a 9-volt battery could be used here)
- 6-3-volt, 1-2A transformer (Allied #54D2030 or equivalent)
- 12.6-volt, 1-2A transformer (Allied #54D4136 or equivalent)
- Fuse holder, Littelfuse #357001 (Allied #57D3009 or equivalent)
- Terminal strips, H.H. Smith Type 879

LOGIC PANEL PARTS LIST

- Printed circuit card*
- Eyelets (Mark Eyelet and Stamping #M-843F)
- TI SN7400N or equivalent
- TI SN7410N or equivalent
- TI SN7420N or equivalent
- TI SN7450N or equivalent
- TI SN7473N or equivalent
- 15-μF, 20-volt tantalum capacitors

- "L" brackets (Calectro Catalog #J4-642) Wire and 4-40 hardware as required
- *see price list

DISPLAY PANEL PARTS LIST

- Panel assembly*
- Potentiometer, 500,000 ohms Mallory type MLO N55L, with 1/4 inch bushing. Allied Part #46D1143
- Knob for the potentiometer. Mallory Type 1910K, Allied Part #46D1146
- Type L-6/50 Muralite lamps with lens caps—3 red, 3 green and 2 yellow
- Dpdt switches, Calectro Catalog #E2-118
- Pushbutton switches with Form C contacts (single pole, double throw), and 1/4" bushing

*see price list

CLOCK-LAMP DRIVER PARTS LIST

- Circuit card*
- 220-ohm resistor, 1/4 watt (R2)
- 47,000-ohm resistor, 1/4 watt (R3)
- 100-ohm resistor, 1/4 watt (R4)
- 3,300-ohm resistors, 1/4 watt (R01 thru R07)
- .25-μF, Mylar capacitor (C1)
- .001-μF ceramic capacitor (C2)
- 15-μF, 20-volt tantalum capacitor (C3)
- 1N914 diodes (D01 thru D71) (D02 thru D72) (Q0 thru Q7)
- 2N3705 transistors (Q8)
- 2N4870 Unijunction transistor
- SP380A Signetics IC's
- SP322B Signetics IC

*see price list

RECTIFIER-REGULATOR PARTS LIST

- Circuit card
- Motorola MDA 942A-1 Bridge rectifier assemblies
- 500-μF, 25-volt electrolytic capacitors Sprague Type 39D507G025HE4
- 1N5337B Zener diode, 4.7-volt, 5-watt, 5% (D9)
- 1N5338B Zener diode, 5.1-volt, 5-watt, 5% (D10)
- 2N4231 2A 35-watt, npn power transistor
- Thermalloy Model 6166B transistor cooler assembly
- 0.75-ohm resistor, 2-watt, 10%, BWH Type (R1)
- 3.5-ohm resistor, 2-watt, 10%, BWH Type (R2)
- 20-ohm resistor, 2-watt, 10%, BWH Type (R5 and R6)
- 220-ohm resistor, 2-watt, 10%, BWH Type (R3 and R4)

LOGIC LAB PARTS

Parts for the logic laboratory are available from Southwest Technical Products Corp., 219 Rhapsody, San Antonio, Texas, 78216. The following items are available:

- Rectifier-Regulator Board.....\$2.20
- Kit of parts plus board.....\$17.50
- Lamp-clock Driver Board.....\$2.10
- Kit of parts plus board.....\$20.75
- Lamp and Switch Panel with associated parts.....\$20.00
- Main Logic Panel Board.....\$8.50
- Kit of parts plus board.....\$36.40

R-E

IMPOSSIBLE?... BARGAINS IN SURPLUS ELECTRONICS (AND OPTICS)



GOVERNMENT SURPLUS GEIGER COUNTER

"USAF" radiation detectors are in like new condition, with instructions. Shirt pocket size, in gray plastic case. Requires one each 1.35 V and 5.4 volt mercury batteries, cost about \$3.00. Will operate fine from less expensive penlite batteries. Quantity limited
ASAFGC . . . \$7.50 ppd.

PUSH BUTTON SWITCHES

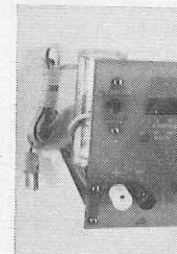
These high grade moulded bakelite push button switches were made to be used as a computer entry device. Uses are limited only by your imagination. Consists of seven sections, six double pole double throw and one four pole double throw. May be cut apart to make seven independent switches. Alternate action, similar to switches on professional audio equipment.
PBS-1 \$1.25 each

SPECIAL! INTEGRATED CIRCUIT VOLTAGE REGULATOR

Latest type, Motorola MC1460G, RCA 3055 or equivalent. Range 3 to 30 volts at 200 MA, 4 amperes with external transistor. Foldback current limiting makes it short circuit proof. Complete with circuit diagrams and data sheets. MFGS price over \$6.00.
Our price \$2.00 each

POWER SUPPLY KIT

We have taken a select group of surplus components, and put together this bargain kit. The kit includes all components required to make a power supply as shown capable of supplying 24 volts at 2 amps, 12 volts at 4 amps or 6 volts



at 8 amps. You couldn't build or buy this same supply at 4 times our low price of \$13.50. For an additional \$8.00, we supply the P. C. board and components to build an integrated circuit regulator for this supply, using a silicon power transistor and the I. C. regulator described elsewhere in this ad.
 Power Supply Kit, Unregulated \$13.50
 Power Supply Kit, Regulated \$21.50

Charges Welcome \$10.00 min
Bank Americard—Master Charge

- TI T1S43 Unijunction Xsistor 2/\$1.00
- TI 2N3819 FET Xsistor 2/\$1.00
- IN3821A (3.3 volts) 1 watt, 1N3822A (3.6 volts) 1 watt, 1N429 reference or 12 volt 3 watt zener.
Your choice 3/\$1.00
- Socket for 14 pin DIP integrated circuit . . . 3/\$1.00
- Integrated Circuits, TTL flat pak, new original packages . . . 5400 quad 4 input, 5410 triple 3 input, 5420 dual 4 input, 5440 power NAND.
Your choice 3/\$1.00
- Hi-Fi Headphone Speakers, MFG G.E. Make your own Hi-Fi headset, lo z.
Price 2/\$1.50
- GIANT 80 PAGE ILLUSTRATED CATALOG jammed with BARGAINS in I.C.'s, Electronics, Optics, G.I. Watches, etc. Free with any order or send \$25.
Price \$2.25

ALL ITEMS POSTAGE PAID IN THE U.S.A.

B. & F. ENTERPRISES

PHONE: 617 532-2323
P.O. Box 44, Hathorne, Massachusetts 01937

Circle 75 on reader service card