

SOUTHWEST TECHNICAL PRODUCTS CORPORATION



SPECIFICATIONS

INPUT SENSITIVITY: 2.0 Mv for 1 Volt output - Phono and Microphone Channels
200 Mv for 1 Volt output - AM, FM, Tape and Aux Channels

OVERLOAD POINT: 100 Mv - Phono and Mic 10 Volts - High Level Inputs

MAXIMUM OUTPUT: 5 Volts RMS

DISTORTION: Less than 0.5% at 1 Volt output

NOISE: 65 Db below 1 Volt output, or more all channels

POWER REQUIRED: 40 Volts DC @ 12 ma.

A matching preamp for our series of basic amplifiers. This preamp has all the features and performance that anyone could want in a quality music system. All amplifiers in the circuit are

* HIGH PASS - LOW PASS FILTER

* ALL SILICON FET TRANSISTORS

* LOWEST NOISE - HIGH SENSITIVITY

* USABLE WITH ANY POWER AMPLIFIER

* PUSHBUTTON INPUT SELECTOR

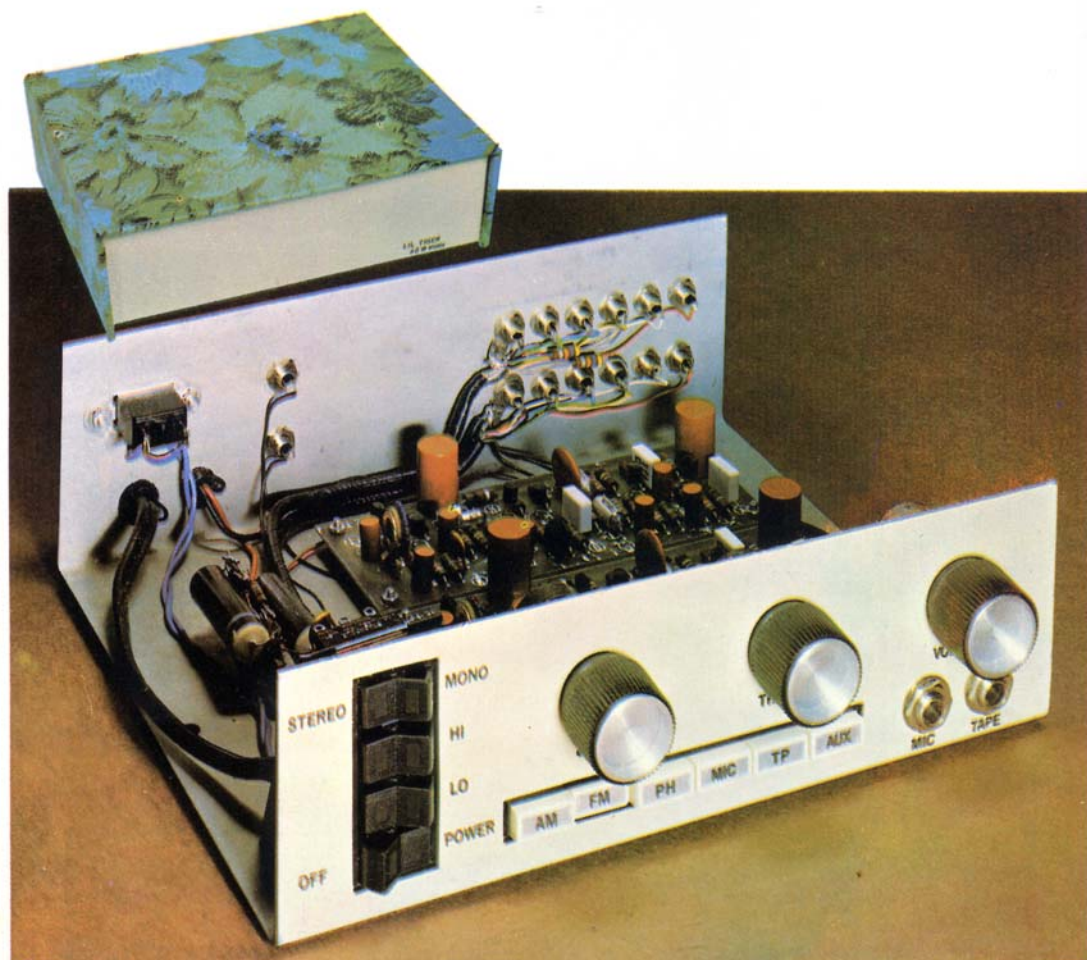
* LOUDNESS COMPENSATION

FET Silicon transistors. This results in very low noise and distortion. The unique push-button input selector makes the unit a pleasure to operate. The cabinet top is covered with vinyl in your choice of color. The chassis interior is chrome plated. Wiring is simplified considerably by the use of printed circuit boards for both amplifier channels. 2 3/4 x 6 3/4 x 9".

#156 Complete kit - less Power Supply ----- shipping weight 4 lbs. ----- \$42.50 + postage

Send 25¢ for Reprint of Article (free with order)

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216



SOUTHWEST TECHNICAL PRODUCTS CORPORATION

219 W. RHAPSODY

SAN ANTONIO, TEXAS 78216

Dear Southwest Technical Products Customer:

The projects described on the following pages represent our efforts to provide you with projects that are unique and fairly priced. You will find that our projects are either not available elsewhere, or that they are significantly less expensive than similar equipment.

We are continuing to pioneer in the digital field for experimenters. We plan to continue to expand and improve this line of equipment. We are offering the new "RCA", Numitron segmented readout tube in this catalog. This new low cost readout tube makes a segmented readout system available at approximately the same cost as a gas discharge system.

We have expanded our line of complementary Hi Fi amplifiers to a complete range of powers from 20 to 75 Watts per channel. All of these amplifiers now have automatic short circuit protection for the output transistors. All of these amplifiers are now available with chrome plated interior metal work. You will be proud to show one of these to your friends. All cabinets are available in your choice of coverings. Black, Brown, Blue Flowered, or Red Flowered may be specified at no extra charge.

Our new FET preamp with pushbutton input selector is available in matching colors. This fantastic new preamp has characteristics that cannot be improved upon significantly by equipment costing ten times this price.

Our new light display kits make it possible for everyone to own a color organ and strobe system that will rival the wildest clubs around. The improved strobe kit now matches our high power Sonolight color organ in appearance and comes with a remote reflector and lamp assembly. Our new Psychedelia Color Organ is the ultimate in light shows. New concepts in display systems and filter circuits make this new color organ system something you will have to see to believe.

Last, but not least, we now offer an alarm system kit for home protection that anyone can afford. You can now make your family secure from intruders with a simple reliable system that you can install for less than \$50 total cost.

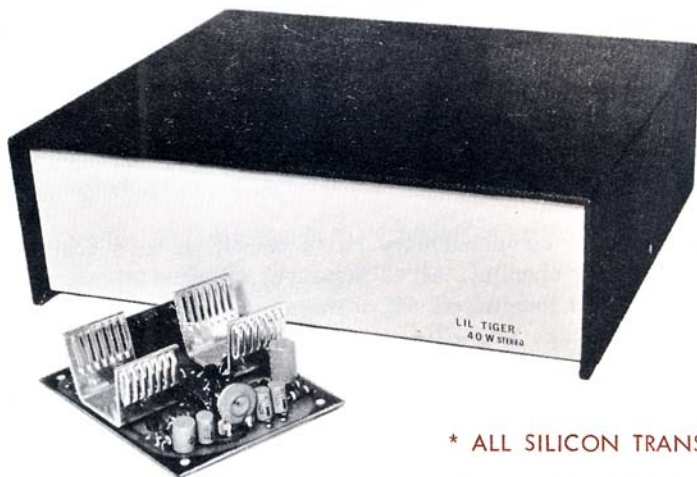
As always, our kits use only quality parts and only the best fibreglass circuit boards. We offer a full refund of purchase price on the kit if you are not satisfied with the price and quality, provided the kit is returned unused and unassembled.

Daniel E. Meyer, President

AMPLIFIERS

THE ONLY COMPLETE LINE OF ALL SILICON,
COMPLIMENTARY OUTPUT, POWER AMPLIFIERS AVAILABLE

LIL TIGER



SPECIFICATIONS

Power Output	18 watts r.m.s., 22 watts IHFM per channel into an 8.0-ohm load with 45-volt power supply
Distortion	Less than 1% total harmonic up to full rated output
Frequency Response	3 dB down at 20 and 100,000 Hz
Input Impedance	Approximately 5000 ohms
Output Impedance	Approximately 0.1 ohm (damping factor of 80 with 8-ohm load)
Hum and Noise	More than 80 dB below 1 watt
Sensitivity	1.5-volt input for 20-watt output
Supply Voltage	12 to 45 volts d.c.

- * ALL SILICON TRANSISTOR CIRCUIT
- * OUTPUT SHORT PROTECTION
- * COMPLEMENTARY OUTPUT STAGE
- * FIBREGLASS CIRCUIT BOARD

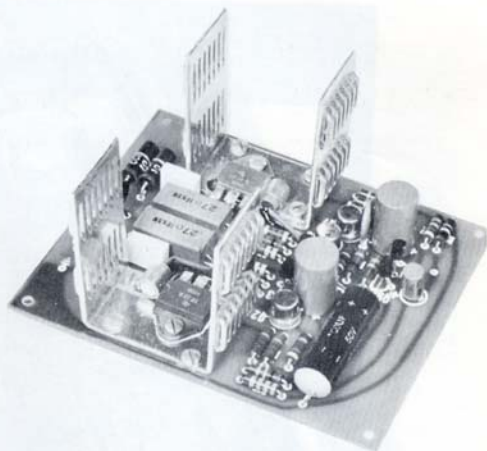
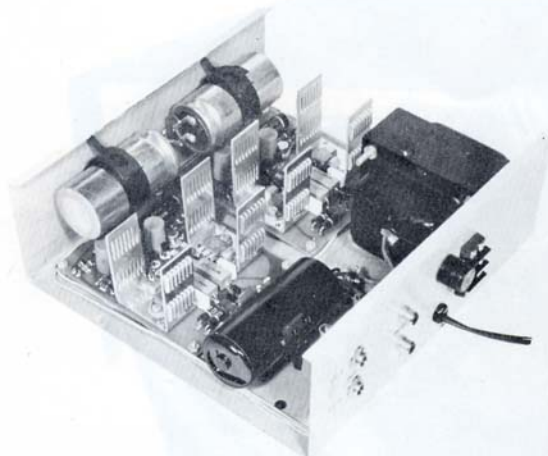
This fantastic little amplifier is now equipped with an output transistor current limiting circuit to make the circuit "short circuit" proof. We are now supplying this kit with 60 Volt output transistors to make this kit an even greater bargain than ever.

Unless you are using acoustic suspension speakers in a very large room, this amplifier has more than enough clean power to satisfy anyone. The power supply chassis has a chrome plated interior and a vinyl plastic covered top. Wiring is particularly easy on this project.
2 3/4 x 6 3/4 x 9".

#140-CX Lil Tiger Amplifier ----- shipping weight 6 oz. ----- \$11.10
#P-140 Power Supply and Chassis ----- shipping weight 6 lbs. ----- \$15.00 + postage
Complete Stereo Amplifier kit (consisting of 2 #140-CX and P-140) ----- \$37.00 + postage

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

TIGER AMPLIFIER



SPECIFICATIONS

POWER OUTPUT: 36 Watts RMS 4 to 8
Ohm Load 40 Watts IHFM
DISTORTION: Less than 1% at rated
output or less
FREQUENCY RESPONSE: 3 Db down at
10 and 100,000 cycles
INPUT IMPEDANCE: 20,000 Ohms
SENSITIVITY: 1.0 Volt RMS for full output
SUPPLY VOLTAGE: 60 Volts DC
HUM AND NOISE: More than 80 db
below one Watt output
OUTPUT IMPEDANCE: Less than .1 Ohm
(damping factor of 80 or more
on an 8.0 Ohm load)

- * FIBREGLASS CIRCUIT BOARDS
- * AUTOMATIC CIRCUIT BALANCE
- * OUTPUT SHORT CIRCUIT PROTECTION
- * COMPLEMENTARY SILICON OUTPUT STAGE
- * NEW 40 WATT PER CHANNEL RMS
SHORT PROOF CIRCUIT
- * DISTORTION LESS THAN .5%
AT FULL OUTPUT
- * NO ADJUSTMENTS - AUTOMATICALLY
HOLDS PROPER BALANCE

"Big Brother" of Lil Tiger with twice the power output and additional features. Tiger has our new differential input stage for higher input impedance and automatic circuit balance. The circuit is completely protected against shorted output, and capacitive loading. The kit has the same high quality fibreglass circuit boards and complementary Silicon output stage that made Lil Tiger such an outstanding value.

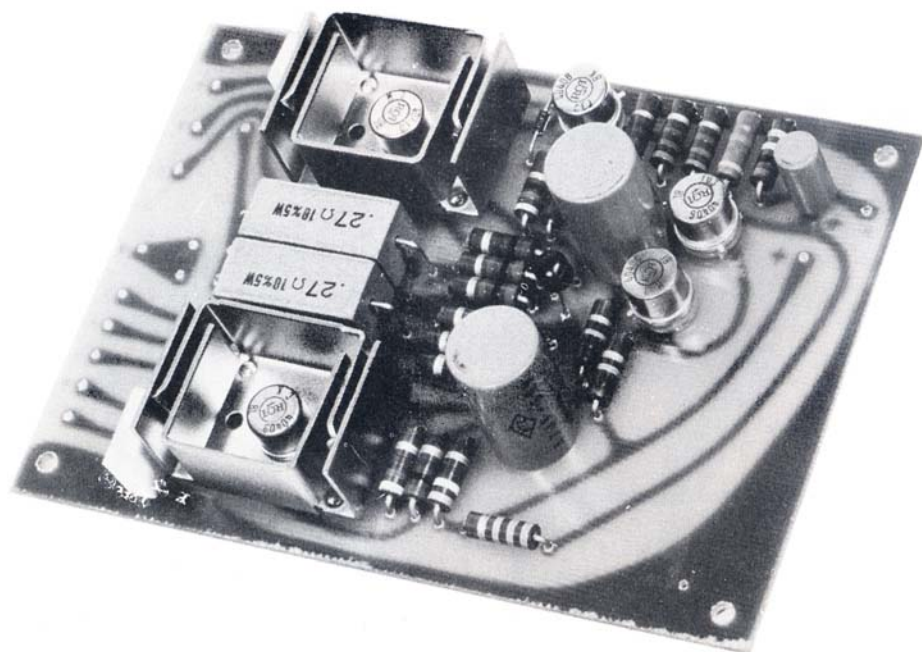
The chassis and power supply kit have our new chrome plated interior and a vinyl plastic covered top. Printed circuit construction makes this outstanding amplifier extremely simple to assemble and wire. Only four wire connections are needed to each circuit board. Power supply is complete with all jacks, transformer, rectifier, etc. 3 1/4 x 9 1/4 x 9 3/8".

#160-C Tiger Amplifier - board and parts----- shipping weight 6 oz. -----\$16.80
#P-160 Power supply and chassis----- shipping weight 8 lbs. ----- 18.00
Complete Stereo Amplifier kit consisting of 2 #160 and P-160. Shipping weight 10 lbs. \$50.00 + postage

Send 25¢ for Reprint of Article (free with order)

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

SUPER TIGER



SPECIFICATIONS

Power Output: 80 Watts RMS
 100 Watts IHFM per Channel
 Distortion: Less than .5% at full output
 Input Impedance: 20,000 Ohms
 Output Impedance: Less than 0.1 Ohm
 Bandwidth: 3 Db 10 to 100,000 Cycles

- * 80 WATTS RMS -
 100 WATTS IHFM PER CHANNEL
- * AUTOMATIC OUTPUT CIRCUIT BALANCE
- * SHORT CIRCUIT PROOF OUTPUT STAGE
- * ALL SILICON TRANSISTORS -
 COMPLEMENTARY OUTPUT

Now you can have all the power that you want in a modern all Silicon transistor, complementary output amplifier. Super Tiger is the answer for those who need enough power to give clean sound in large rooms even with inefficient speakers. The circuit has every feature that could be wanted in a quality amplifier. A differential input stage gives automatic balance (no adjustments

needed - ever) and a higher input impedance than generally found in transistor equipment. The output transistors are protected against shorted output connections by a current limiting circuit. Construction is quick and easy on our quality fibreglass circuit boards. The chassis interior is chrome plated and the cabinet covered with vinyl plastic. 5 x 10 x 7 1/2".

#TAC Super Tiger Complete Stereo Amplifier - shipping weight 17 lbs. -- \$75.00 + postage
 #TA-1 Amplifier Only ----- shipping weight 3 lbs. ---- 25.00 + postage

Send 25¢ for reprint (free with order)

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

DIGITAL VOLT-OHMMETER



DIGITAL VOLTMETER SPECIFICATIONS

Ranges: D.c. volts: 0-2, 0-20, 0-200. Ohms: 0-200, 0-2000, 0-20,000, 0-200,000. Range extendable to anything that can be represented by a variable 0-2-volt d.c. signal.

Input Impedance (Voltmeter): 0-2, 1 megohm; 0-20, 1 megohm; 0-200, 10 megohms.

Maximum Ohmmeter Current: 0-200,000 ohms, 10 μ A; 0-20,000 ohms, 100 μ A; 0-2000, 1 mA; 0-200, 10 mA.

Resolution: One part in 200, any range. ± 5 millivolts on 0-2-volt range, ± 0.5 ohms on 0-200-ohm range.

Accuracy: Better than $\pm 1\%$ of full scale, ± 1 count over most portions of most ranges. Internal calibration with 1.35-volt secondary mercury standard.

Stability: Less than 1 count drift per 20 minutes after 15-minute warmup.

Noise Rejection: Instrument is a fully integrating, multiple slope type and is essentially "blind" to any 60-Hz line-borne hum or noise and has a high degree of rejection to all other high-frequency noise.

Update Time: 15 measurements per second; instrument integrates input for 16.7 milliseconds and displays for 50 milliseconds.

Miscellaneous: Automatic overrange indicator, floating decimal points for "actual value" indication; zener input protection; polarity reversal switch; internally self-calibrating; useful accuracy to 200% of full scale.

* 0 - 200 VOLTS

* 0 - 200,000 OHMS

* BETTER THAN $\pm 1\%$ ACCURACY

* AUTOMATICALLY SELF-CALIBRATING

Build your own high performance digital volt-ohmmeter for less than the price of commercial equivalents. While not a beginner's project, the extensive use of ICs makes the construction of the DVM relatively straightforward and easy on a module-by-module basis.

The DVM is simple to operate - just clip your circuit to panel and read. No wobbly meter pointers or reading wrong scales as the information instantly lights up on the front panel. The range can be extended to anything that can be represented by a variable 0-2-volt d.c. signal. $3\frac{3}{4} \times 10 \times 7"$.

#155CP Complete DVM Kit ----- Shipping weight 8 lbs. ----- \$79.50 + postage

Send 25c for Reprint of Article (free with order)

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

FREQUENCY COUNTER



SPECIFICATIONS

Ranges: 0 to 200 Hz., 0 to 2 KHz,
0 to 20 KHz., 0 to 200 KHz,
and 0 to 2.0 MHz.

Events, External Gate and Ratio Positions
Accuracy: .1%

Resolution: One Part in 2000 Full Scale

Sensitivity: 30 Millivolts RMS

Sine Wave - Maximum

100 Millivolts P-P Pulse - Maximum

Input Impedance: .1 Volt Range 2.5K

1 Volt Range 12.5K

10 Volt Range 112K

Shunt Capacity of less than 30 Pf

A .1 to 2.0 MHz frequency counter with features such as overrange indicator, guarded input, and 3 1/2 digit display. This instrument uses a

* .1% ACCURACY

* MEASURES ANY WAVESHAPE

* AUTOMATIC DECIMAL POINTS

* 0 - 2,000,000 CYCLE COUNTING RANGE

line reference time base and is accurate to .1%. The modular construction makes assembly fast and simple.

This counter measures frequency by directly counting the number of cycles that occur in the input signal. The punched chassis is ready for painting in the color of your choice. The top is vinyl plastic covered. The adjustable base allows positioning the instrument for the best viewing angle. 3 7/8 x 10 x 8 1/8".

#FC-1 Complete Counter Kit----- shipping weight 8 lbs. -----\$120.00 + postage

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Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

NIXIE® READOUT

DECADE COUNTING UNIT



SPECIFICATIONS

Supply Voltage: +5 Volts @ 50 Ma.
 +170 Volts @ 4.0 Ma.
 Input to insure logic "1" at all inputs:
 2.2 Volts Minimum
 Input to insure logic "0" at all inputs:
 .6 Volts Maximum
 Typical Toggle Frequency: 18 MHz.
 Output logical "1" voltage:
 2.4 Volts Minimum
 Output logical "0" voltage:
 .4 Volts Maximum
 Maximum input Voltage (Signal):
 5.5 Volts

This "state of the art" counter, decoder and readout unit uses "medium scale integration" to produce a highly reliable, simple counting readout unit. Two Series 74, TTL type integrated circuits, one resistor, a readout tube and the circuit board, make up this professional quality device.

- * STATE OF THE ART DESIGN
- * BRIGHTEST READOUT AVAILABLE
- * SIMPLE - FIVE PARTS INCLUDING BOARD
- * LATEST TTL CIRCUITS - TO 20 Mc.
- * INPUT SIGNAL OF ANY TYPE WILL OPERATE THIS CIRCUIT. NO SQUARING OR PROCESSING NEEDED

The circuit board may be wired, or used with a printed circuit edge connector. The matching cabinet has space for up to six counting units. The internal power supply provides the regulated +5 Volts and 170 Volts needed by the counters. The cabinet bottom is primer coated and ready for paint. The top is covered with black vinyl plastic. The cabinet is supplied complete with all switches, jacks, pushbuttons, polaroid filter for window, etc. 3 x 8 1/2 x 5 1/2".

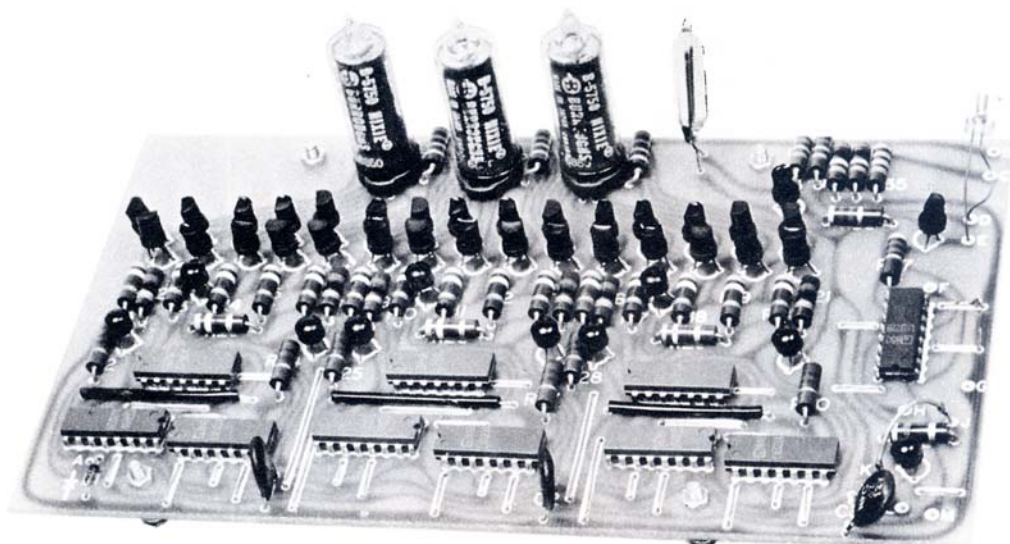
#NX MSI Nixie® Decade counting unit.----- shipping weight 5 oz. ----- \$30.00
 #PX Cabinet and power supply for above.----- shipping weight 3 1/4 lbs.----- 12.00

®Registered trademark Burroughs Corp.

Send 25¢ for Reprint of Article (free with order)

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

MULTI - DECADE NIXIE® READOUT



* 3 1/2 DECADES - ONE CIRCUIT BOARD

* OVERFLOW INDICATOR CIRCUIT

* TTL CIRCUITS - 10 MHz TOGGLE RATE

* DISPLAY BLANKING INPUT

SPECIFICATIONS

RANGE: 0 to 1999
FULL SCALE ACCURACY: .05%
COUNTING RATE: 10 MHz (Typical)
SIZE: 4 x 7 3/8 - 1 3/4 High
POWER REQUIRED:
5.0 Volts @ 350 Ma. DC
180 Volts (Min.) @ 7 Ma. DC

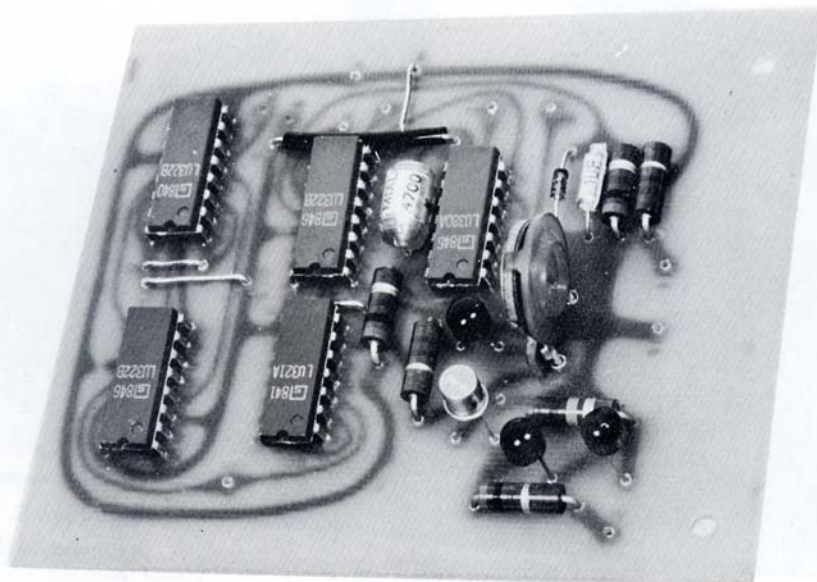
A convenient one board version of our Nixie® decimal counter. One board has all the circuits necessary for 3 complete decades and a "One". All that is needed for a direct digital readout system is on the board and ready to bolt into your system. In addition to the counting circuits there is provision for display blanking and an overrange indicator. Circuits used are TTL types which are compatible with our TTL time base and scaler circuit.

#MNX-1 Multi-Decade Nixie® Readout-----shipping weight 1/2 lb.-----\$59.50

® Registered trademark Burroughs Corp.

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

TIME BASE - SCALER



TIME BASE SPECIFICATIONS

Range - 1 Hz to 10.0 MHz
Accuracy - .01% (Line Reference)
Input Impedance - 1 Meg shunted by 20 pf
Sensitivity - 250 Millivolts RMS
Power - 5 Volts @ 300 Ma.
Board - Fibreglass 2 7/8 X 3 1/2

SCALER SPECIFICATIONS

Four Independent Divide by Ten Circuits - Nine Integrated Circuits
Board - Fibreglass 2 7/8 X 3 1/2
Maximum Input to Trigger - 2.25 Volts
Waveform - Any, rise time not critical
Counting Range - To 10MHz

These two circuits added to our MNX Multi-Decade readout produce a complete frequency counter circuit. The time base has a high input impedance FET first stage followed by a trigger circuit and a synchronized switch. The input signal is gated into the readout by .1 second pulses derived from the power line. The display time between counts is variable and can be set from 1/2 second to 10 seconds.

By adding a range switch and the four scaler circuits on our SC-1 module, the full scale counting range may be made 1000 Hz 10.00 KHz 100.0 KHz 1.000 MHz, or 10.00 MHz. All circuits are TTL types and a 100% overrange is available on the readout. Diagrams for connections necessary to make a counter are included with either kit.

TB-1 Complete Time Base kit with mounting bracket and display time control.

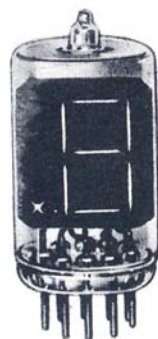
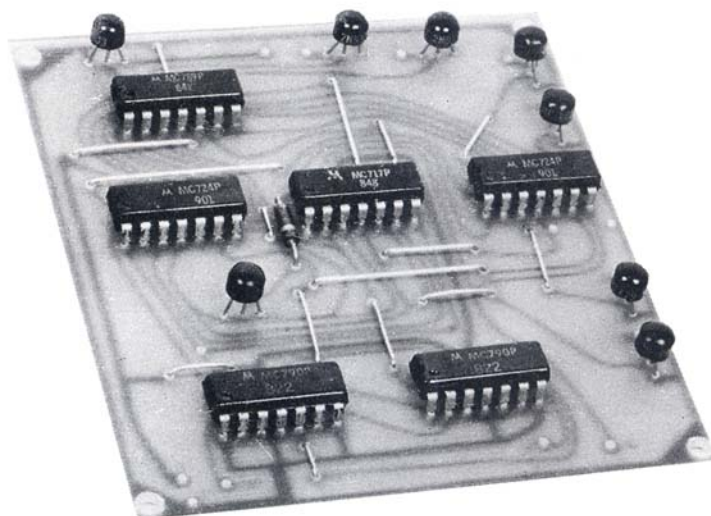
Shipping weight - 5 oz. \$17.50 + postage

SC-1 Complete Scaler kit with mounting bracket. Shipping weight - 4 oz. \$19.50 + postage

Send 25¢ for instructions (free with order).

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

SEGMENTED READOUT



DR2010
0 through 9
with decimal point

- SINGLE-PLANE DISPLAY
- LOW VOLTAGE OPERATION
- LARGE NUMERALS-1 INCH HIGH
- WIDE VIEWING ANGLE-UP TO 150°

A counting and decoding circuit for the popular new segmented type displays. The circuit board has six integrated circuits and eight transistors. They produce the proper light pattern to make numbers from 0 to 9 using the segments in the figure 8 pattern. This technique produces a bright easy to read display. Portable instruments in which the circuits and the display all operate directly from a low voltage battery are possible with this type readout system.

SPECIFICATIONS

COUNTING SPEED	Up to 5 MHz
INPUT LEVELS	.85 or more for "1" .45 or less for "0"
OUTPUT LEVELS	1.5 Volts or more for "1" .3 Volts or less for "0"
POWER INPUT	5 Volts @ 500 Ma. Max.
CIRCUIT BOARD	G-10 Fibreglass 3 1/8 x 3 1/2"

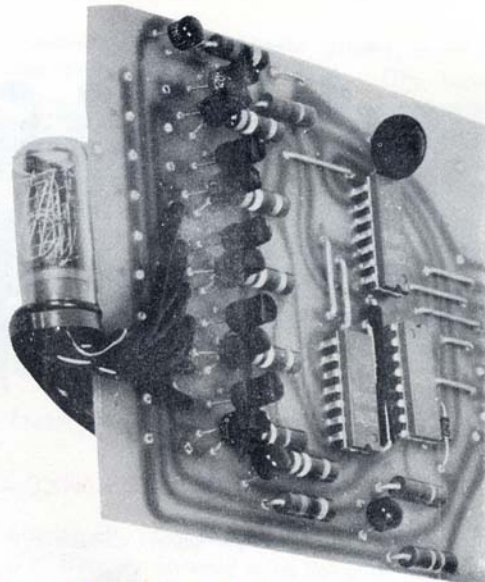
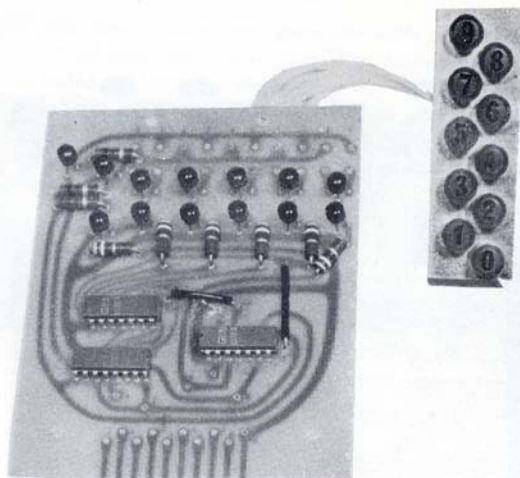
#SEG-1 Circuit board, lamps and complete kit of parts; less display device. ----- \$13.50

#DR-2010 "RCA Numitron" readout tube with decimal point. ----- 5.95

Send 25¢ for Reprint of Article (free with order).

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

UNIVERSAL DECADE COUNTING UNIT



SPECIFICATIONS

Power Input: - 5.0 Volts 5% at 225 ma.
6 to 6.5 Volts at 70 ma.
or 170 Volts at 4 ma.

Input Levels: - 2.7 Volts Maximum for "1"
1.4 Volts or Less for "0"

Output Levels: --- 3.8 Volts Min for "1"
0.6 Volts Max for "0"

Typical Toggle Rate: ----- 10.0 MHz

Circuit Board: ----- G-10 Fibreglass
3 1/4 x 4 3/8"

* 10 Mc Typical Toggle Rate

* TTL Circuits - Direct Coupled Input

* Choice of Readout Systems - Lamp or Nixie®

* BCD Decoding - Outputs Available For Other Equipment

The latest version of our popular low cost counting unit. The logic circuits have been redesigned to provide a BCD output for use with external equipment if desired. TTL type integrated circuits, which provide superior noise margins and which use a 5 Volt power supply, compatible with other TTL logic.

The decoder design has been changed to a single

ended type driver system. Now the same circuit may be used with either inexpensive pilot lamps, or Nixie® readout systems.

Direct coupled flip-flops eliminate the need for shaping circuits ahead of the counter. The trigger signal may be any frequency and have any shape so long as it meets voltage level requirements. The circuit board is designed so that it may be used with an edge connector socket if desired.

1969 Winter "Experimenters Handbook" version still available for use in Popular Electronic projects still only \$12.00.

#148LC Decade Counter with all parts, board, and lamp readout system ----- \$12.45

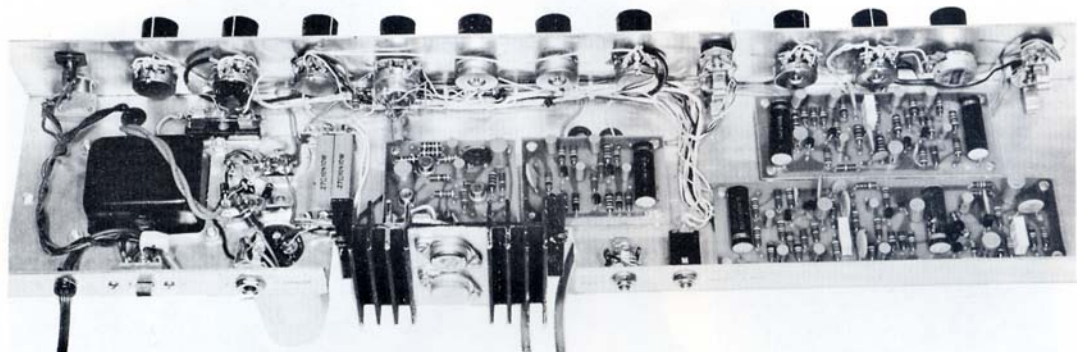
#148NC Decade Counter with all parts, board, and Nixie® readout system using B5760 tube ----- 18.35

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M/M/M INSTRUMENT AMPLIFIER



- * FOOT SWITCH CONTROL OF TREMOLO AND REVERB
- * TREMOLO, REVERB AND FUZZ
- * FET INPUT STAGE FOR QUIET OPERATION
- * 60 WATT RMS OUTPUT - 150 WATTS PEAK

NEW!

FET INPUT STAGE
SHORT PROTECTED AMPLIFIER
PICTORIAL ASSEMBLY INSTRUCTIONS
BRUSHED FINISH FRONT PANEL

SPECIFICATIONS

Power Output: 60 Watts RMS
150 Watts Peak Power
Frequency Response: 20 Hz
to 50 KHz
Dynamic Range: 60 Db
without overloading
Complete Control of Fuzz,
Tremolo and Reverb.

Time tested by professional combo groups, this instrument amplifier can't be touched by any similar professional unit as far as price, quality and versatility are concerned. A complete custom sound system can be purchased for your electric guitar or other type stringed instrument. If you already have some type of system for your instrument, then special sections can be added for desired effects. Custom fit your instrument as to your needs. This versatile system includes controllable fuzz, tremolo, and reverb; also, a clean 60-Watt booster. A straight preamplifier for vocal or voice announcements can also be added. Now being supplied with short proof output circuit. No more blown transistors from accidentally shorted speaker leads.

Amplifier cabinet size: 24 1/2 x 9 x 7 1/2".

#MMM Complete Amplifier, less cabinet, with reverb and both preamps - Shipping weight - 13 lbs.
\$90.00 + postage.

(Prices of amplifier, preamp and reverb sections as separate items available on request.)

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

SPEAKERS & CABINETS

We have made arrangements with an old-line established instrument amplifier manufacturer to build cabinets for the M/M/M. You can have a truly professional looking system. All cabinets are sturdily built with the finest quality 3/4" plywood (hot glue interlocking joints) and covered in beautiful rich black mar resistant vinyl,

complete with sturdy handle, gliders, metal corner protectors and grill cloth. (The handle, gliders, corners, and grill cloth are not attached. A five minute job that anyone can do.) All cabinets are shipped F.O.B., San Antonio. Specify desired method of shipment. Send orders for items on this page to address below.

AMPLIFIER CABINET

Size 24 1/2" long, 9" high and 7 1/2" deep. A perfect fit for the preamplifier. Shipping weight 12 pounds.

#141PC ----- \$15.00

SPEAKER CABINET

Acoustically designed, constructed with finest 3/4" five-ply plywood using hot glue interlocking joint construction and covered with beautiful rich black mar resistant vinyl. Shipping weight 56 pounds.

#141SC-15 Precut baffle board for two
15" speakers ----- \$60.00

#141SC-12 Precut baffle board for two
12" speakers ----- \$60.00

#141CB Blank baffle board for you
to cut to size ----- \$60.00

SPEAKER CABINET WITH SPEAKERS

#141SCS-15 2 heavy duty special design 15"
speakers with 54 oz magnet and
2" voice coils ----- \$140.00
Shipping weight 83 lbs.

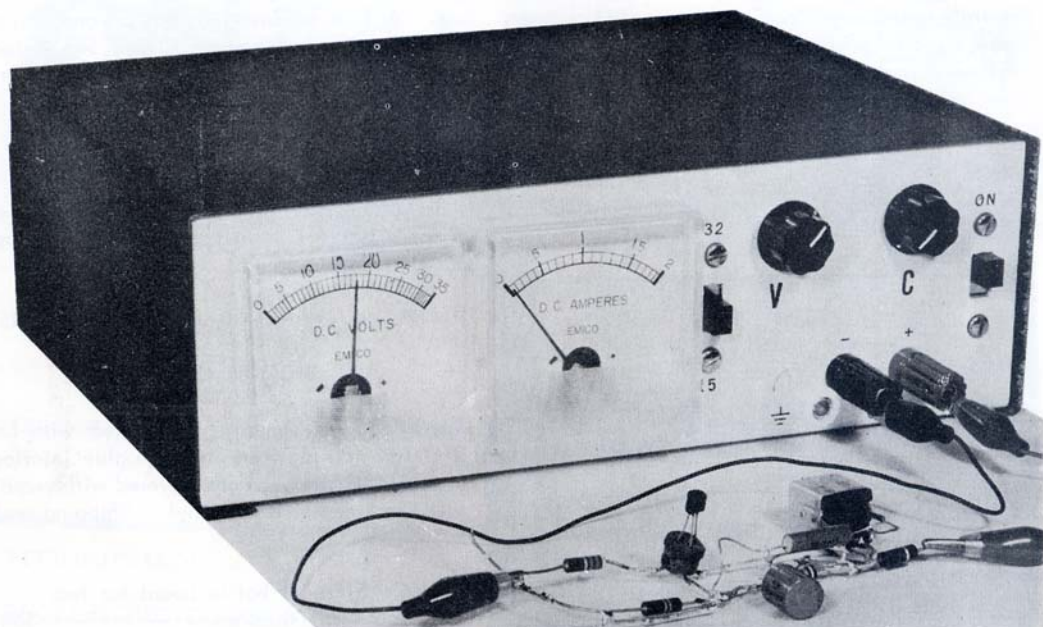
#141SCS-12 2 heavy duty special design 12"
speakers with 27 oz magnet and
1 1/2" voice coils ----- \$110.00
Shipping weight 67 lbs.

Speaker Cabinets 42 x 24 1/2 x 10 1/2 in.

Order items on this page only from
Main Electronics Inc.
916 W. Lural, San Antonio, Texas



SHORT-PROOF POWER SUPPLY



* 0 - 35 VOLTS DC AT UP TO 2.0 AMPS

* SAFE - ADJUSTABLE CURRENT LIMITING CIRCUITS PROTECT YOUR CIRCUIT AND THE SUPPLY FROM DAMAGE BY EXCESSIVE CURRENT DRAIN

This high capacity variable voltage source not only will provide you with "rock stable" voltage for your experimental circuits, but will also provide protection against accidental shorts or circuit malfunctions. The over-current protection can be set for any amount of current that would be safe for your experiment. The supply will then "limit" current to this value or less. The power supply itself cannot be damaged by having its output leads shorted.

SPECIFICATIONS

Voltage Range	0-32 volts, 10 mA to 2 amperes, continuously adjustable
Regulation	1% or 0.1 volt, whichever is greater, for 0-100% load
Stability	Less than 20-mV drift (constant ambient temperature with fixed load) over a 6-hour period
Input	105-125 volts a.c.
Ripple	0.003%, or 10 mV r.m.s. maximum

Cabinet is primer coated and ready for paint color of your choice. The circuit does not connect to the chassis and the chassis may be connected to either the positive or negative output jack for shielding if needed. 3 x 7 x 9 1/4".

#143C Short-Proof Power Supply-----shipping weight 8 lbs.-----\$37.50

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

SONOLITE-COLOR ORGAN



SPECIFICATIONS

MAXIMUM CURRENT: 5 Amps

INPUT FOR MAXIMUM OUTPUT:
0.5 Watts

INPUT IMPEDANCE: 8 Ohms

CONTROLS FOR SENSITIVITY
AND BACKGROUND

*USE WITH ANY MUSIC SYSTEM

*CONTROLS UP TO 500 WATTS

*EASY TO INSTALL

The Sonolite is an inexpensive way to add exciting lighting effects to your music system, or musical group. The simple circuit is supplied with pictorial assembly drawings. Each unit can

control a lamp or group of lamps with up to a 500 Watt rating. Light intensity changes with the music's loudness. Use one on each amplifier in your musical group to produce a multicolor "light show". 5 x 5 x 1 1/4".

#X-147C Sonolite Color Organ --- shipping weight 2 lbs. ----- \$10.50

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

PSYCHEDELIA



NEW - ACTIVE FILTER FREQUENCY SEPARATION

NEW - TRIAC CONTROL - 200 WATTS PER CHANNEL

NEW - SLIDER TYPE CONTROLS - 6 CHANNELS OF COLOR

NEW - DISPLAY SYSTEM WITH MULTICOLOR FLOWER

* PATTERNS

"Psychedalia" is the latest and most unique color organ system available. The basic system consists of three light channels for each sound channel. Each light channel will control 200Watts of power. A new active filter system gives superior color separation with a minimum of "color crosstalk". Accessories are available to allow sound pickup with a microphone rather than from the speaker

terminals. A beautiful and different new display system that gives a moving 3-D flower pattern effect makes this one of the most exciting light shows you have ever seen. The modular design makes it possible to start with a simple system and build it into a full six channel remote sensing unit if you later wish to add more colors.

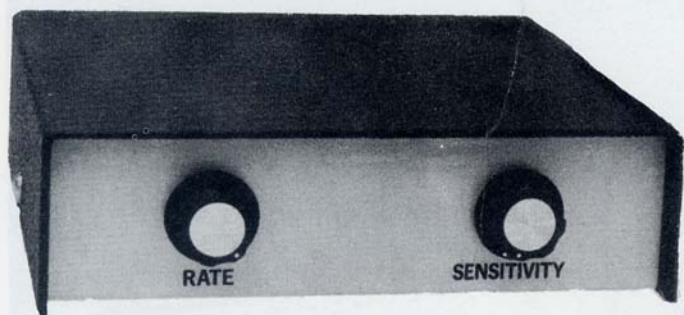
QP - Power Control Kit with circuit board #501 ----- shipping weight 2 lbs. ----\$13.90
QF - Quality Filter Kit with circuit board #502 ----- shipping weight 1 lb. ----- 29.50
QD - Display Cabinet Kit - assembled, not wired, less lamps ----- 26.50
(Cabinet shipped by Express or Freight Collect)

Send 25¢ for Reprint of Article (free with order)

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

PSYCHEDELIC

STROBE LIGHT



- * IMPROVED RATE CIRCUIT
- * NEW - SEPARATE FLASHTUBE AND CONTROL
- * FRONT MOUNTED SENSITIVITY AND RATE CONTROLS

"Medical opinion concerning the use of strobe lighting in darkened rooms is 'cautionary'. Prolonged use may induce hallucinations or trigger undesired side-effects. It should not be used in the presence of anyone subject to epilepsy."

One of our most popular electronic kits, the Strobe light, will delight adults as well as the "teen-scene". Aside from practical uses in photography and general purpose stop-motion observation, this psychedelic strobe light can create the most unusual effects seen with musical groups or "at home" parties. The strobe flashing at a proper rate synchronized with the music in a semi-darkened room produces an illusory and bizarre scene. It reminds one of the old time



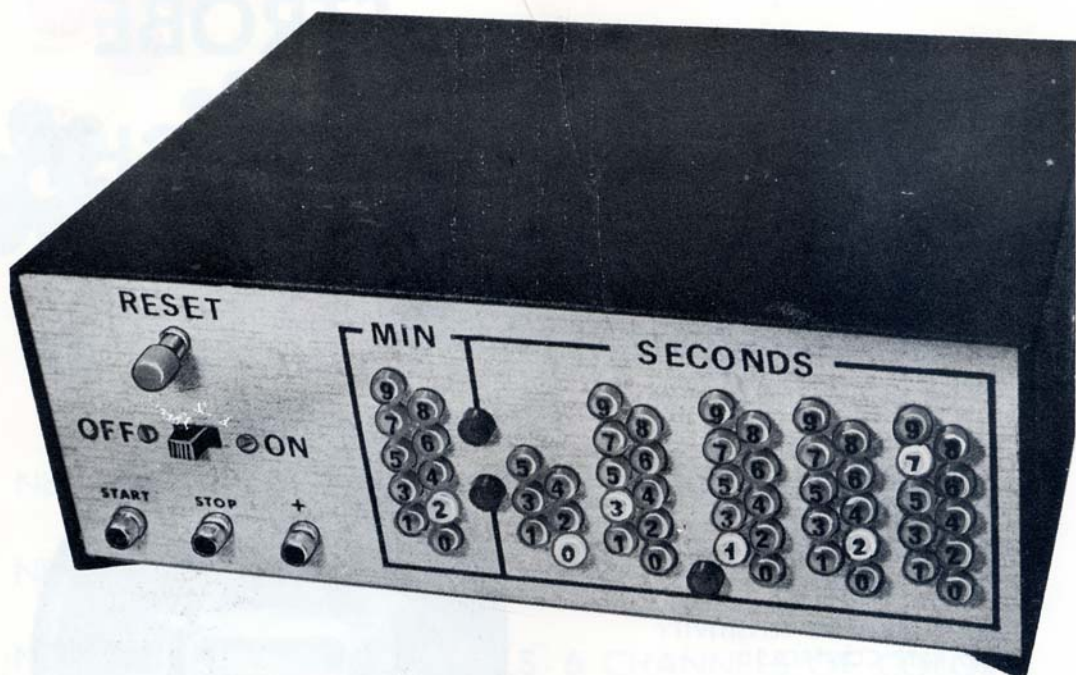
"flicks" and "The Keystone Kops". Musical groups need not limit their purchase to just one strobe. Experiment with several - The effect is incredible.

The punched cabinet is primer coated and ready for painting in the color of your choice. Top covering is textured black vinyl. Cabinet matches Sonolite color organ. Polished 5 1/2" reflector.

#X-149C Psychedelic Strobe Kit-----shipping weight 2 lbs. ----- \$17.50 + postage

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

SPORTS TIMER



SPECIFICATIONS

Timing Period: .001 Sec.
to 9 Min. 59 Sec.
Accuracy: .005% or better
Repeatability: .001% or better
Start-Stop Input: Photocell
- Trip Wire or Switch

At last an electronic timer that anyone can afford. Do away with timing errors in track, quarter midget, slot car, and all other races. This crystal controlled timer operates from "start" and "stop", light beam systems. The elapsed

time between breaking the two beams is measured by the Sports Timer to .005% accuracy. Will time events up to 9 minutes 59 seconds. Applications of the Sports Timer are limited only by the imagination. The IC power supply provides 3.6 or 5.0 volts DC at 1 amp and unregulated 6 to 7 Volt to operate lamps.

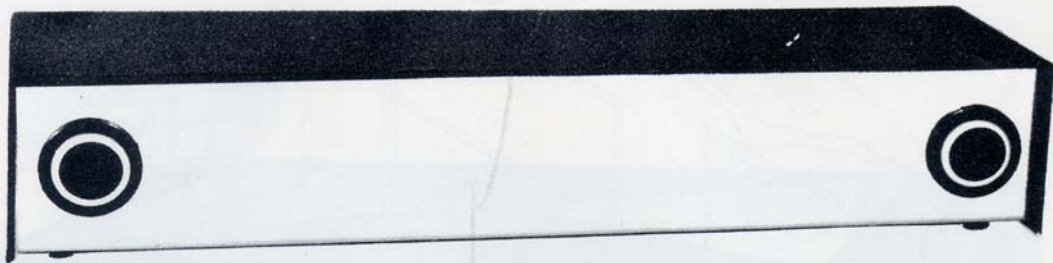
Chassis is supplied punched and with a primer coating. Ready for painting in color of your choice. Chassis top is metal. Black vinyl covered. 10 x 7 x 3 1/2".

#STK Complete Sports Timer Kit ----- shipping weight 7 lbs. ----- \$115.00 + postage
#P-2C Matching Photo Pickoff for above ----- shipping weight 6 oz. ----- 4.00

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Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

Ultrasonic Intrusion Alarm



***Easy Installation *Impossible to Avoid**

***Area Protection - Up to 400 Sq. Feet**

***Proven "Doppler" Type Detection**

SPECIFICATIONS

Size - 13 x 3 x 2 1/2

Operating Frequency - 40 KHz

Area Coverage - Up to 400 Sq. Feet

Controls - Sensitivity and remote reset if desired

Power Requirements - 117 Volts AC or 12 Volts DC

Outputs - 117 Volts AC or 12 Volts DC Available. 1 Amp switch contacts

Now you can equip your home with the same type intruder alarm system used by industrial plants, banks, and the IRS. The protected area is flooded with ultrasonic sound waves. Anything moving in the sound wave field causes a change in the amount of sound reflected back to the receiver and trips the alarm. This is the same "Doppler" principle used in highway radar.

Easy installation - simply "aim" the unit at the area to be protected, and set the sensitivity. The two integrated circuits and four transistors operate on 12 Volts, so the alarm can be used in cars and boats too. The internal AC power supply will supply up to 1 Amp to any 12 Volt alarm device that is connected to the system.

Ultrasonic Alarm Kit - #UA-1 ----- shipping weight 4 lbs. ----- \$37.25

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

THEREMIN

ELECTRONIC MUSICAL INSTRUMENT



SPECIFICATIONS

Controls: Pitch - Zero set - Volume
 Approximate Sound Range:
 30 to 15,000 Cycles
 Volume Range: 50 to 60 DB Change
 Power: Internal 9 Volt Battery

*OPERATES FROM INTERNAL 9 VOLT BATTERY

*VINYL COVERED CABINET - MATCHES
 INSTRUMENT AMPLIFIER

*FET VOLUME CONTROL CIRCUIT

*OUTPUT LEVEL MATCHES ANY
 INSTRUMENT AMPLIFIER

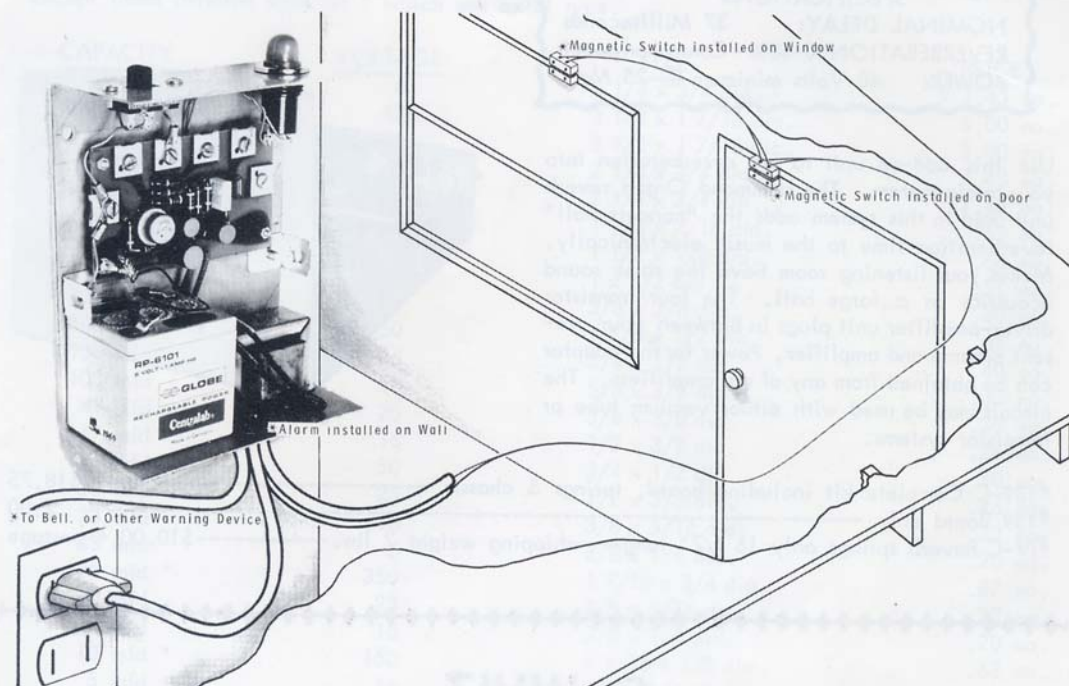
A modern, solid state version of the Theremin all electronic musical instrument. Two antenna plates, operated by hand capacity, control the pitch and volume of the sound. Add this to your combo for a really unique and different sound.

Our revised version of this instrument now has fully shielded coils and a new tuning circuit. Adjustments are fast and noncritical. The rugged vinyl covered cabinet matches our MMM instrument amplifier. 3 x 6 3/4 x 14 1/2".

#142 Complete kit for Theremin -----	shipping weight 4 lbs. -----	\$22.50
with cabinet & antenna		
#TE Theremin electronics -----	shipping weight 9 oz. -----	16.50
#Tb Theremin circuit board -----		2.50

Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas 78216

ALARM SYSTEM



* PROFESSIONAL TYPE EQUIPMENT

* SIMPLE - EASY TO INSTALL AND USE

* PROTECT YOUR HOME OR BUSINESS FROM INTRUDERS

You can now build and install an alarm system to protect your home or business that would easily cost \$200 to \$300 if installed by a professional alarm company. This simple and dependable magnetic switch and tape system will provide all the protection needed in most homes. There are no tricky adjustments or complicated procedures needed to use this system. With the wired protection loop installed, you simply turn on the alarm and walk out the door. Your home is protected. Any-

one opening a door (or window, if protected) will turn on your bell, or other warning device you may wish to connect to the alarm system. The control box contains a standby battery to prevent the alarm's operation in case of power failure. It will also keep the alarm system in operation if the power to the building is cut. The internal battery will operate a normal alarm bell or light for up to an hour.

#MSA-1 Alarm System - Complete kit with three magnetic door or window switches and battery. Does not include bell or alarm device itself ----- \$25.50

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REVERB ADAPTOR

SPECIFICATIONS

NOMINAL DELAY: 37 Milliseconds

REVERBERATION: 0-50% - Control on panel

POWER: 40 Volts minimum @ 25 Ma.

Use this add-on unit to put reverberation into your music system. The Hammond Organ reverb unit used in this system adds the "concert hall" reverberation time to the music electronically. Makes your listening room have the same sound acoustics as a large hall. The four transistor driver-amplifier unit plugs in between your present preamp and amplifier. Power for the adaptor can be obtained from any of our amplifiers. The circuit may be used with either vacuum tube or transistor systems.



#139-C Complete kit including board, springs & chassis ----- \$18.75

#139 Board only ----- 2.00

#IV-C Reverb springs only 16 1/2" long-----shipping weight 2 lbs.-----\$10.00 + postage

G-WHIZ

The G-Whiz is specially designed for automotive use and measures both acceleration and deceleration. In coming years accelerometers like the G-Whiz may become standard equipment on all new high-performance cars. Here is your chance to get ahead of the times and check out your driving habits as well as the performance of your car. The acceleration rate of your car can tell the driver many things. It can check out the effect a tune up, carburetor adjustment, tire pressure change, or change of fuel grade has on your car's performance. The G-Whiz can be installed almost anywhere in the car as long as it is mounted as horizontal as possible. Metal case - 5 x 3 x 2 1/2".



#G-Whiz---shipping weight 2 lbs.----- \$12.75

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ELECTROLYTIC CAPACITORS

These are high quality epoxy case, with epoxy end seal type capacitors. Completely sealed type construction eliminates loss of electrolyte and reduction of capacity with age. All are single ended except those denoted with an * which are axial type.

<u>CAPACITY</u>	<u>VOLTAGE</u>	<u>SIZE</u>	<u>PRICE</u>
4000 mfd *	6	2 1/4 x 3/4 dia.	\$ 1.43 ea.
4000 mfd	47	3 1/2 x 1 7/16 dia.	3.00 ea.
2500 mfd	75	3 1/2 x 1 7/16 dia.	3.00 ea.
2500 mfd *	10	2 1/4 x 3/4 dia.	1.43 ea.
1000 mfd *	25	2 1/4 x 3/4 dia.	1.43 ea.
1000 mfd *	3	1 1/2 x 7/16 dia.	.65 ea.
500 mfd	15	1 1/2 x 1/2 dia.	.60 ea.
300 mfd	6	1 x 1/2 dia.	.51 ea.
220 mfd	6	5/8 x 3/8 dia.	.30 ea.
100 mfd *	50	1 5/8 x 1/2 dia.	.65 ea.
100 mfd	25	3/4 x 1/2 dia.	.40 ea.
100 mfd	16	5/8 x 3/8 dia.	.30 ea.
47 mfd	25	5/8 x 3/8 dia.	.30 ea.
47 mfd	16	1/2 x 3/8 dia.	.26 ea.
47 mfd	50	3/4 x 1/2 dia.	.40 ea.
33 mfd	25	1/2 x 3/8 dia.	.26 ea.
33 mfd	16	3/8 x 5/16 dia.	.23 ea.
33 mfd	6	3/8 x 1/4 dia.	.20 ea.
20 mfd *	350	1 7/16 x 3/4 dia.	.87 ea.
10 mfd	25	3/8 x 5/16 dia.	.23 ea.
10 mfd	16	3/8 x 1/4 dia.	.20 ea.
10 mfd *	150	1 1/16 x 1/2 dia.	.63 ea.
5 mfd	16	3/8 x 1/4 dia.	.20 ea.
2.2 mfd	16	3/8 x 1/4 dia.	.20 ea.
1 mfd	16	3/8 x 1/4 dia.	.20 ea.

POLYSTYRENE CAPACITORS

10,000 pf 33 Volt	\$.22 ea.	390 pf 160 Volt	.20 ea.
4,700 pf 160 Volt	.22 ea.	220 pf 160 Volt	.16 ea.
3,300 pf 160 Volt	.22 ea.	100 pf 600 Volt	.16 ea.
1,000 pf 160 Volt	.20 ea.	60 pf 160 Volt	.16 ea.
820 pf 160 Volt	.18 ea.	4.7 pf 160 Volt	.16 ea.
470 pf 160 Volt	.18 ea.		

RESISTORS

Any 1/2 Watt 10% value.	\$.08 ea.
Any 1/4 Watt 10% value.	.12 ea.

TRANSISTORS

2N404	\$.45	SS1122	\$1.60
2N1302	.50	SS1123	1.35
2N2430	.57	TIS58	.99
2N3055	2.48	40234	.42
2N3228	1.62	40396	.83
2N3528	1.63	40406	1.19
2N3611	1.15	40407	.81
2N4400	.60	40408	1.08
2N4402	.60	40409	1.14
2N4870	.96	40410	1.32
2N4906	5.60	40431	2.97
2N4915	4.20	40487	.30
2N4919	1.90	40488	.22
2N4922	1.48	40489	.28
2N5129	.25	40532	1.78
2N5139	.22	40668	1.58
3N139	2.89	C106Y2	.90
MPS2923	.43	L14B	1.45
MPS3638	.50	TIS43	1.02
MPS6566	.57	TIP33A	1.92
MJE3055	1.41	TIP34A	3.84

INTEGRATED CIRCUITS

MC715	\$1.00
MC717P	1.08
MC723P	1.35
MC724	1.08
MC785P	1.25
MC789	1.08
MC790	2.00
MC791P	2.35
MC1303P	5.25
uL900	.80
uL914	.80
CA3020	2.80
SN7441AN	13.96
SN7490AN	9.98
LU380A	1.34
LU321A	2.48
LU322B	2.75

DIODES AND RECTIFIERS

Germanium diodes	\$.15
Silicon diodes DZ800	.15
1N5060	.56
VS-148	1.00
3.9 V zener	.50
4.7 V zener	.50
5.6 V zener	.50
10 V zener	.50
18 V zener	.50
MPT-32	.87
1N914	.35
1N3754	.32
1N4719	.66

BEACHCOMBER

NEW

Vernier Tuning -
Matching Search Loop -
Shielded Oscillator Coil -

SPECIFICATIONS

Beat Frequency Detector	Single Loop
Operating Frequency	Approximately 700 KHz
Search Loop Size	6 Inch Provided
Weight	1 1/2 lbs Complete With Search Loop

Treasure hunting can be enjoyed by people of all ages. Try your luck with our Beachcomber in your own back yard, at the beach, or while visiting historic sites. Our simple single-loop beat-frequency locator will detect coins buried up to 6 inches deep and larger objects at depths up to 2 feet. The Beachcomber tells you where to dig. Perhaps you will find something truly valuable: coins or rings.

The five transistor circuit now includes a new vernier tuning system and a shielded oscillator coil. The Beachcomber operates 6 to 8 hours on a standard 9 Volt transistor radio battery. Our kit now includes a finished, ready to connect, molded six inch search loop. This rugged well insulated search loop insures maximum sensitivity and minimum drift problems with your detector. Search oscillator frequency changes that occur when the loop passes over metal, are indicated by a change in the pitch of the audio beat note from the built in speaker. The high gain audio amplifier produces a loud, easy to hear, beat note at low frequencies where detection sensitivity is greatest. The oscillator circuits are well isolated from each other and have little tendency to lock into a zero beat condition. The detector will only produce an output at the proper tuning point, so there is no chance of accidentally selecting an unstable "Harmonic" tuning point. Note the low cost for this kit.

#136-XC Metal Detector Kit - All electronic parts, punched chassis and finished search loop. Less handle and battery. Shipping weight, 2 lbs. ----- \$23.75



**SOUTHWEST TECHNICAL
PRODUCTS CORPORATION**

219 W. RHAPSODY • SAN ANTONIO, TEXAS 78216

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