

198/A PREAMP

PUSHBUTTON TONE CONTROLS
GAIN MODULE DESIGN
MOTHERBOARD CONSTRUCTION
SELF POWERED - WILL
WORK WITH ANY AMPLIFIER

We are proud to offer a preamp and control center that is equal in quality and performance to our new "Tiger .01" amplifier. Both input and tone control settings are push-button switch selected. This makes it possible to get the exact amount of compensation you want every time, just as in

professional studio equipment. When no compensation is wanted the amplification is absolutely flat.

All controls have been designed to make their function as obvious as possible, so that the chances of a mistake in settings will be minimized. Loudness compensation and tape monitor functions are provided.

All gain needed is provided by four of our plug-in #195 opamp circuits. These plug into two "motherboards" that contain all the switching and equalization components. The result is vastly simplified wiring, and easy construction.

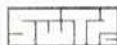
The kit is complete with a brushed gold finished front panel and the wood grain finished cover shown. Two switched convenience AC receptacles are provided on the back.

9 5/8" W X 5" H X 10 3/8" D

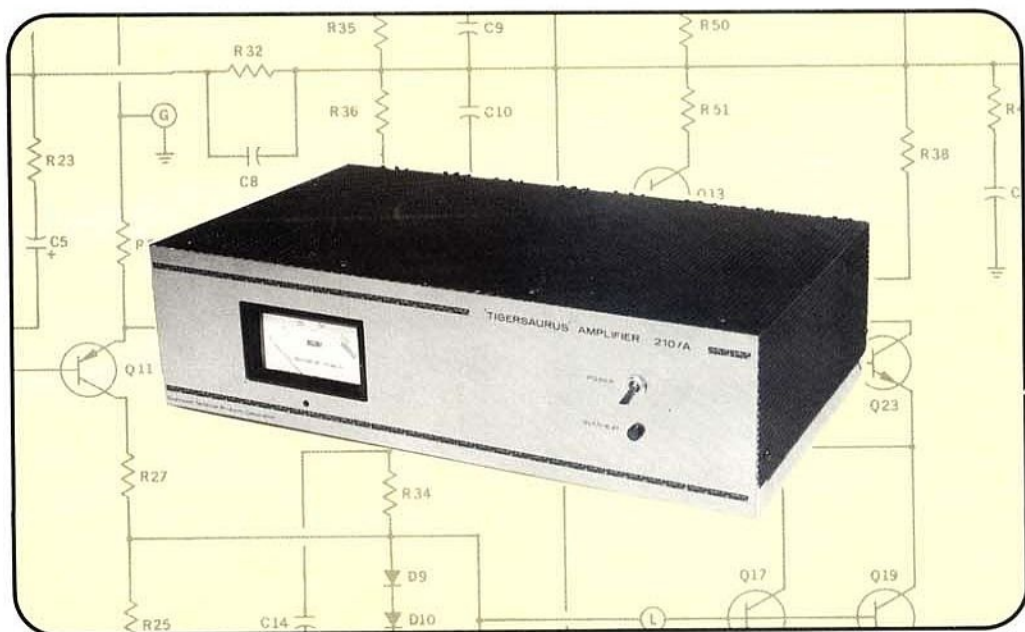
198A Preamp Kit, 6 lbs.\$74.50 PPd

SPECIFICATIONS

Sensitivity..... Phono and Mic 2.0 mv for 1 Volt output, All Others 100 mv. for 1 Volt output
 Frequency Response..... Flat \pm 1 db 10 to 100,000 Cycles
 Distortion..... Less than .05% Harmonic or IM at rated output
 Noise.....Phono and Mic 65 db down all others 70 db down



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



TIGERSAURUS 250

The most powerful amplifier we make for those who want "beastly" amounts of power. We didn't cut any corners, or skimp on any of the parts that went into the design of this animal. The power transformer is a huge 24 pound chunk of iron and copper. The output stage uses eight (8) 200 Watt transistors with a combined rating of 360 Volts @60 Amps. The heat sink for this output stage has over 550 square inches of heavy, efficient extrud-

ed aluminum fins. In most applications, if there is a free air circulation around the case, no external fans, or blowers should be required.

The circuit features our unique all push-pull system and completely complementary output stage. The driver is the same cross coupled, complementary differential type as used in our famous "Tiger .01". The kit also features a large-three inch lighted output level meter and a robust 25 amp rated rectifier in the power supply. The front trim panel is dusky chrome finished.

For those who are using speakers that can take this kind of power, or for those really big PA jobs this is "THE" amplifier to use.

210 Tigersaurus Amplifier Kit
Shipping Weight 28 lbs.\$154.50 PPd

SPECIFICATIONS

250 Watts—4.0 Ohms, or 200 Watts—8 Ohms
minimum sine wave continuous average
power from 20 Hz to 20 kHz with less than
0.1% total harmonic distortion.

IM Distortionless than .03%
Damping factor.....Over 100
Hum and noise-95 dB
Sensitivity2.0 Volts RMS
Size18 wide x 5 high x 11 deep
Shipping Weight24 lbs.



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



TIGER .01 207/B

A new standard of performance. We know of no amplifier now available that can match the performance of our new "Tiger .01". Our new completely push-pull circuit with cross coupled push-pull feedback makes possible an IM distortion rating of less than 01% up to rated output. This is easily ten to one hundred times better than many so called Hi-Fi amplifiers. Our conservative approach of using low open loop gain and only some 40 dB of negative feedback results in a amplifier with very clean overload and clipping characteristics, no evidence of transient intermodulation distortion, and overall superior sound quality.

Test reports by two of the leading audio publications confirm these facts.

The amplifier is designed to be used as either a single channel unit for sound system and

instruments, or in any multiple needed for stereo or quad systems. The front panel is quarter rack size to allow relay rack mounting of up to four of these units in a standard 19 inch relay rack.

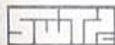
The circuit features volt-amp and fuse protection, plus an over heat thermostat. An output meter is provided on the front panel as shown. The perforated metal cover is included in the standard kit.

# 207/B Complete Kit	
Shipping Weight 15 lbs.	\$ 77.50 PPd
# 207-A Assembled Amplifier	
Shipping Weight 15 lbs.	\$110.00 PPd

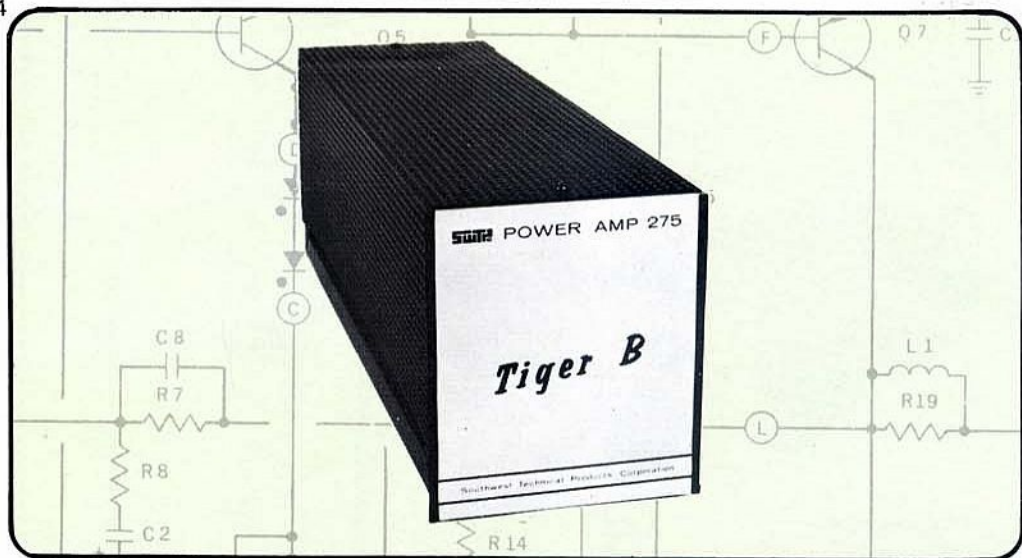
SPECIFICATIONS

60 Watts—4.0 or 8.0 Ohms minimum sine wave continuous average power from 20 Hz to 20 kHz with less than .05% total harmonic distortion.

IM Distortion.....	less than .01%
Damping factor	Over 100
Hum and noise	-90 dB
Sensitivity	1.0 Volt RMS
Size	4 1/4 wide x 5 high x 15 deep
Shipping Weight	12 lbs.



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



The circuit features our outstanding complementary differential input system and current drive to fully complementary output devices. The circuit has volt-amp output protection, speaker fuse, power supply and line fuses. Compare our state of the art circuits to anything else available.

For those who want more features, we offer an accessory kit that allows addition of a front panel switch, overheat indicator and output meter; along with a level control on the rear panel.

We think that in "Tiger B" we have one of the most versatile amplifiers made, and the price has to be the bargain of the decade.

# 275 Universal Tiger Amplifier Kit (single channel)	\$64.25 PPD
# 275A Assembled.....	\$99.50 PPD
# AC-275 Accessory Kit (output meter, switch, etc.).....	\$ 7.90 PPD

SPECIFICATIONS

80 Watts—4.0 Ohms, or 70 Watts—8.0 Ohms
minimum sine wave continuous average
power from 20 Hz to 20 kHz with less than
0.1% total harmonic distortion.

IM Distortion	less than .03%
Damping factor.....	Over 100
Hum and Noise	-.90 dB
Sensitivity	1.0 Volt RMS
Size	4 1/4" wide x 5" high x 15" deep
Shipping Weight	12 lbs

UNIVERSAL TIGER "B"

The latest version of our famous "UT" amplifier. We have added our complementary differential input circuit to this rugged old standby and dressed it up in a pretty new box, but otherwise it is still the same all purpose basic amplifier. The "Universal Tiger" is cleaner than the majority of hi-fi amplifiers being offered, but the cost is low enough to use it in PA, organs, background music, and sound system of all types. The package size allows mounting of four of these amplifiers side-by-side in a standard 19 inch relay rack.

The kit has step-by-step instructions, wiring charts and pictorial wiring diagrams. All parts are our usual first quality, standard number parts, made by the world's leading manufacturers. The majority of the construction is on beautiful fibreglass circuits boards.



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



pictorial wiring diagrams, wiring charts and step by step instructions are provided in the kit.

Compare the specification of this amplifier with any other amplifier offered in this power range. Compare the features, and then compare the prices.

215 Stereo Amplifier Kit \$69.50 PPD

215

Our #215 amplifier is for those who want the superior performance of "Tiger .01", but who do not need, or want 60 Watts per channel. The #215 has the same complementary differential, all push-pull circuit as "Tiger .01" and the same type triple in the output stage. The only difference is in the maximum power output. You get two channels of super clean power in a neat package, with output meters for each channel. The entire circuit, except for the output transistors is built on a plug-in fibreglass circuit board for extra easy construction. The usual

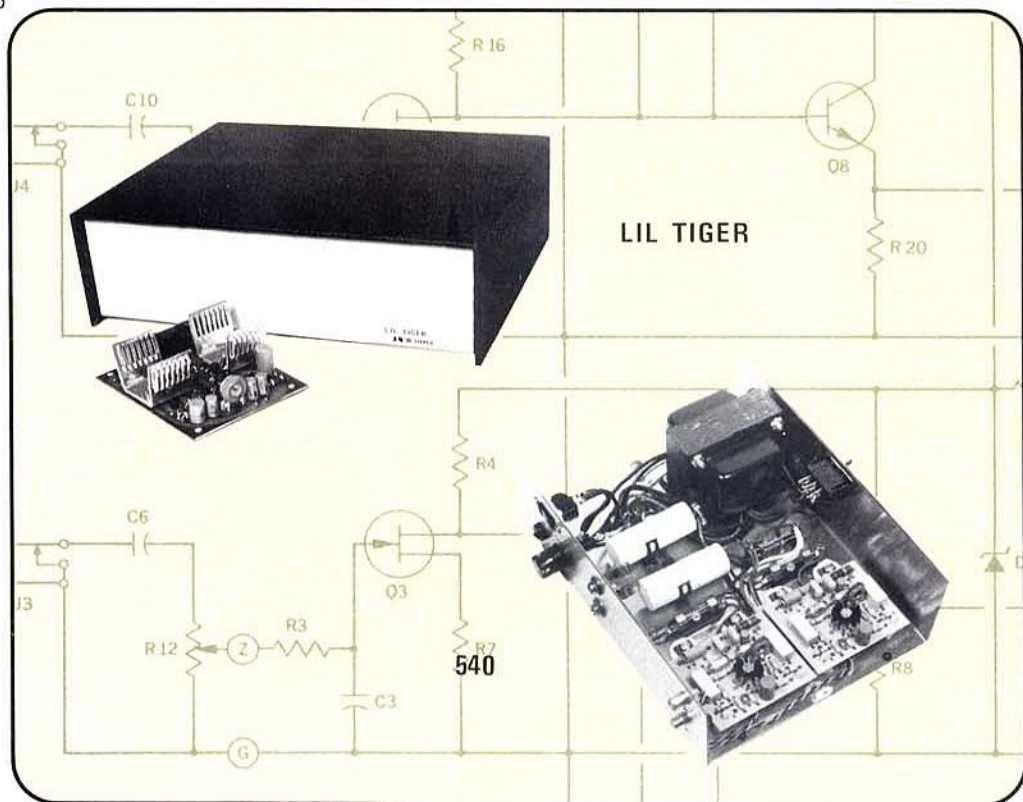
SPECIFICATIONS

25 Watts per channel—4.0 or 8.0 Ohms minimum sine wave continuous average power from 20 Hz to 20 kHz with less than .05% total harmonic distortion.

IM Distortionless than .01%
 Damping factorOver 100
 Hum and Noise.....-85 dB
 Sensitivity0.75 Volt
 Size 4½ wide x 4½ high x 13½ deep
 Shipping Weight 9 lbs.



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



LIL TIGER

15 Watts per channel, minimum sine wave continuous average power from 20 Hz to 20 kHz with less than 0.5% total harmonic distortion.

IM Distortion less than 0.5%
 Hum and Noise -80 dB
 Sensitivity 0.5 Volt
 Size 9½ wide x 3 high x 8 deep
 Shipping Weight 7 lbs.

540

15 Watts per channel, minimum sine wave continuous average power from 20 Hz to 20 kHz with less than 0.5% total harmonic distortion.

IM Distortion less than 0.5%
 Hum and Noise -80 dB
 Sensitivity 0.5 Volt
 Size 9½ wide x 3 high x 8 deep
 Shipping Weight 7 lbs.

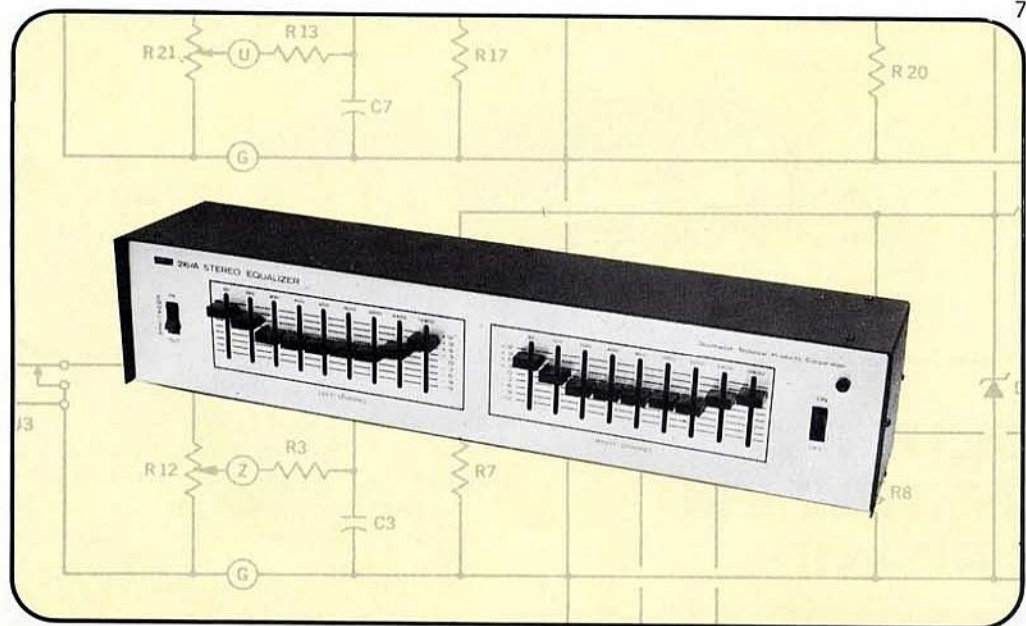
In the 20 Watt per channel class we offer you a choice of two amplifiers. For those who have a situation where only a single polarity of supply voltage is available, or who want to build a "classic"; we have Lil Tiger. For those who want the latest design, we have our "540" with IC driver system. Both amplifiers have excellent characteristics and both are packaged in the same chassis with the same power transformer, so the choice of design is yours. Both amplifiers use complementary output transistors and both are constructed on fibreglass circuit boards.

Step-by-step assembly instructions and pictorial wiring diagrams are included in the kits. Construction is open for easy access to parts being assembled.

140 or # 540 amplifier kit (specify) one channel
 Circuit board and parts only
 Shipping Weight 6 oz. \$11.95 PPD

140 or # 540 Complete Stereo Amplifier (consisting of two of the above kits chassis and power supply)
 Shipping Weight 6.0 lbs. \$41.25 PPD





AT LAST

STEREO OCTAVE EQUALIZER

- * NINE INDEPENDENT CONTROLS PER CHANNEL
- * ONE OCTAVE RESPONSE PER CONTROL
- * UP TO ± 12 dB CORRECTION

The one everyone has been asking for. Our octave equalizer is finally ready. It may have taken a while, but we wanted to be able to offer an equalizer that was not only outstanding in performance, but one that was also reasonable in cost.

As shown in the photograph our equalizer has nine (9) independent single octave controls per channel. Each control can either boost or cut frequencies in that particular octave up to ± 12 dB. Controls for each channel are separate, so the equalizer can be used to

adjust each speaker exactly correct with no compromises due to ganged controls for the two channels.

The filter circuits use operational amplifier active filters. There are no inductors to pick up hum or cause ringing problems. This equalizer can be added to your system between the preamp and amplifier, or it can be connected into the tape monitor system of your preamp.

In the flat position, the frequency response is ± 1.0 dB from 5 Hz to 50 KHz. Distortion is typically less than 0.1%. An octave equalizer is the ideal way of compensating for room response. It also makes it possible to compensate for small recording problems that only a narrow band filter could correct. You can bring up weak mid bass, eliminate presence peaks, etc. without affecting the rest of the music.

Our equalizer comes in an all metal enclosure with a black vinyl covered top. The front panel is satin red-gold finished. The circuit is self powered from its own internal power supply. 110-120 Volts AC 50-60 Cycles.

EQ-1 Octave Equalizer Kit\$99.50



GUITAR and INSTRUMENT PREAMP

**NEW "NOTCH" TYPE TONE SYSTEM
PLUS - SUPER CLEAN TREMOLO
AND - REVERBERATION
GIVES YOU THE ULTIMATE IN
FLEXIBILITY AND SOUND VARIATION**

Our guitar and instrument preamp combines the latest in tone controls "the notch system" with active filter design to give you the ultimate in flexibility. The use of a rejection notch is the latest thing in creating new sounds. It allows you to greatly reduce, or eliminate the fundamental note from your strings and only allow the harmonics and overtones to be heard. Our system is the only one available anywhere that gives you complete control of the amount, width and depth of the notch. In addition to this you get the usual bass and treble tone controls that allow you to cut, or boost these frequencies. As if this wasn't enough, we have also added an "Emphasis" control that allows you to completely eliminate the bass, or treble frequencies; or mix them together in any proportion desired. You can imagine the versatility you would have with this type control system. Here at last is a single front end that can be used for almost any instrument. It is ideal for a bass, but also has the features you need for a lead instrument.

The "Tremolo" speed can be varied from three to fifteen cycles per second and the depth controlled from zero to one-hundred percent. The tremolo system is very smooth and clean and introduces no sounds of its own. The modulation system used is unique in that it is not just a loss type circuit. It both adds and subtracts from the normal volume level so that the sound output does not drop when tremolo is introduced.

The "Reverb" system uses a high quality spring reverberation unit with a high drive circuit for lots of clean good sounding reverb.

The sound quality of this preamp is comparable to the best stereo systems. Total harmonic distortion typically is less than 0.1% and the bandwidth of the circuits is 10 Hz to 100,000 Hz.

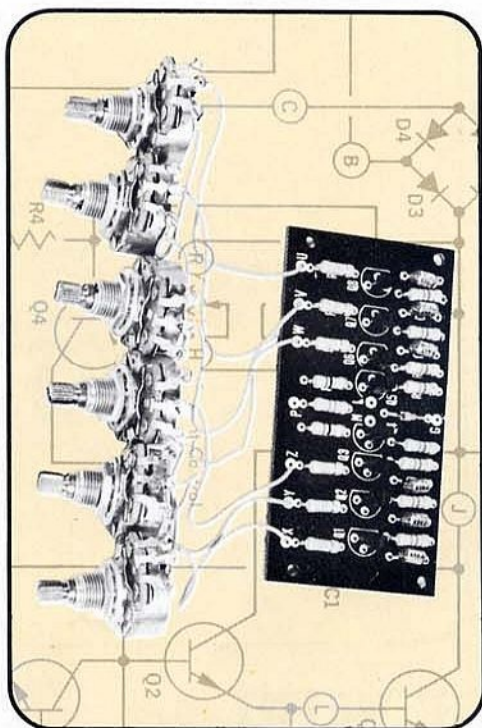
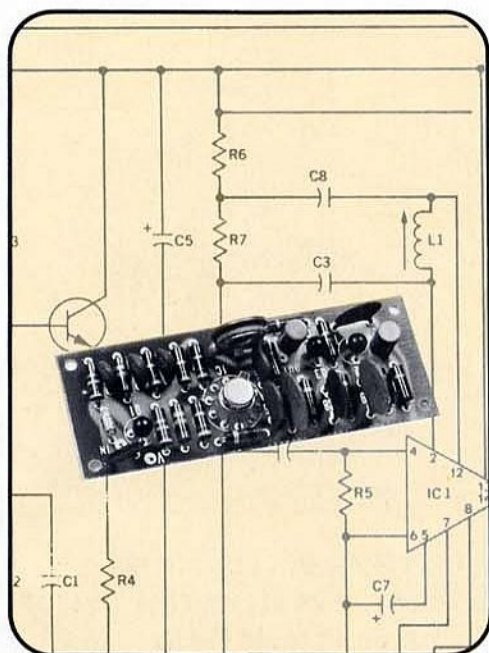
The #211 circuits are powered by an internal AC supply requiring only 110-120 Volts AC at 0.25 Amps. The preamp will drive almost any power amplifier, or PA sound system. The maximum output is over 5 Volts RMS into a 10K Ohm load. This is more than sufficient for any of our power amplifiers and enough for any that we have ever heard about. You are free to use as small, or as large a power amplifier system as necessary for the occasion.

Our preamp is housed in a black vinyl covered wooden cabinet with handsome silver trim and a convenient carrying strap. The cabinet is finished and ready for the electronic portion of the kit. No cabinet assembly is required. 25" x 6½" x 7½" deep

211 Guitar and Instrument Preamp Kit
Shipping Weight 7 lbs. \$96.50 PPd



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



SCA MULTIPLEX ADAPTOR

Now get "Music Only" FM Programs

Sensational new approach to detection of the multiplexed subcarrier used by many FM stations. This adaptor may be used with any FM radio or tuner. New "phaselocked loop" integrated circuit provides both the filtering and FM detector needed to receive these broadcasts. Our kit is complete with instructions for installing the adaptor in your tuner. Power required is 12.0 Volts DC @ 500 Ma.

Use of the "phase locked loop" system results in a circuit with superior rejection of unwanted interfering signals, better fidelity and requires no inductors, or tuned circuits.

Note - Commercial use of this circuit for background music systems is illegal.

PLLAS - Assembled
Shipping Weight 2 lbs.\$29.95 PPd

SPECIFICATIONS

Input Impedance5 Meg. Ohms
Output Level 1.0 Volt
Detection Range 50-80 KHz

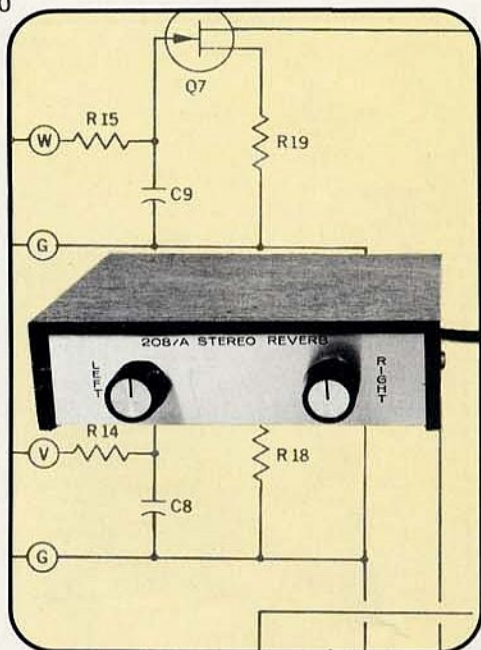
6 INPUT MIXER

For those custom PA designs - Two channels with three inputs on each channel, or six inputs to one channel as needed. An individual FET high impedance input stage is used with individual volume input controls for each input. The mixer cannot cause loading, or add noise to your system. Inputs of up to 0.5 Volts RMS may be used without overloading. Circuit gain of 3 in two channel, or unity if used on one channel allows addition of the mixer at almost any point in your system from the microphone to the power amplifier. Requires 12 to 24 Volts DC at 500 Ma. Complete with controls.

1xr-6 Kit - Shipping Weight 1 lb.\$13.75 PPd



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



REVERB ADAPTOR

Use our new self powered stereo reverb adaptor to put reverberation into your system. The spring reverb unit adds the "Concert hall" reverberation time to your music electronically. Simulates the acoustics of a large hall and gives your music more "life."

Two independent channels with separate controls to add the exact amount of reverb you prefer in each stereo channel. This self-powered unit is connected between your preamp and power amplifier and may be used with any type system.

Brushed gold chassis with wood grain cover. Step-by-step instruction and use of three integrated circuits make this kit quick and easy to assemble.

239-C Complete Kit with two spring units
Shipping Weight 5½ lbs.\$39.50 PPd
Z-IC Reverb Springs only as used in above kit.
2,000 Ohm input and output.
Shipping Weight 2.0 lbs.each \$10.75 PPd

SPECIFICATIONS

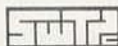
Nominal Delay 37 Milliseconds
Reverberation 0 to 50%-Control on panel
Size 5 x 5 x ¼

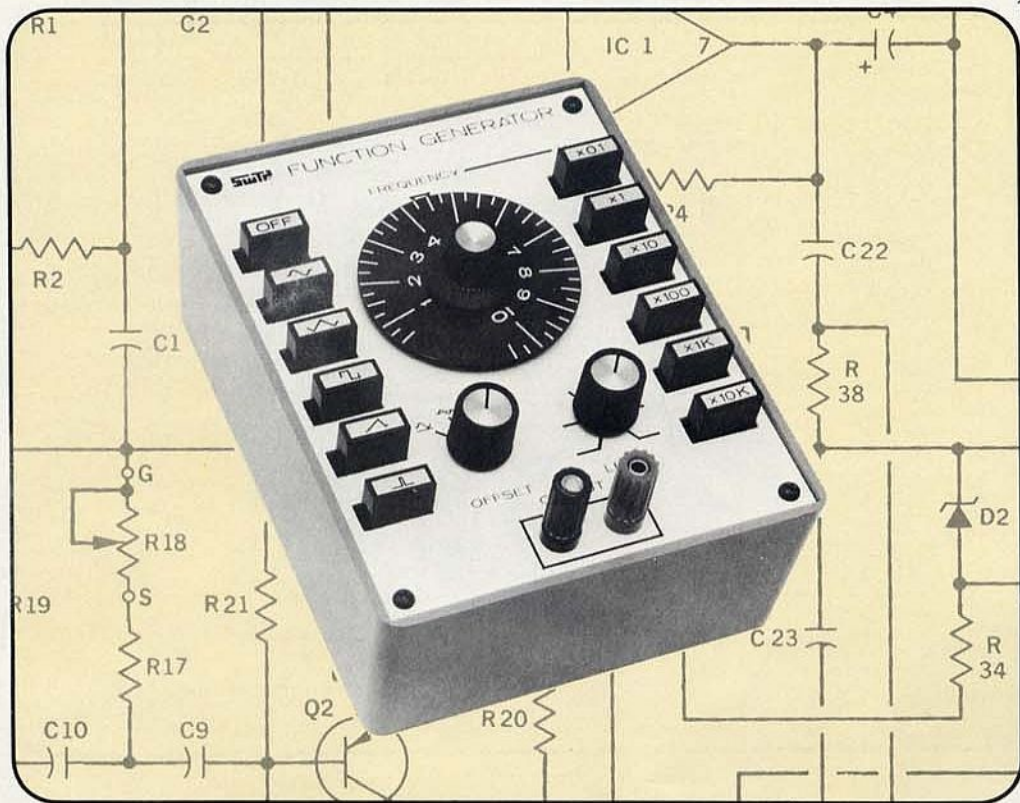
LESS THAN .01% DISTORTION
NOISE - 75 db BELOW FULL OUTPUT
± 1 db from 1 to 500,000 Hz
FOR PHONO CARTRIDGES, TAPE HEADS, OR MICROPHONES

195 PREAMP

We are happy to be able to offer a really outstanding preamp module for those who enjoy building up their own systems. The # 195 preamp is designed using integrated circuit techniques, but by using discrete components much better characteristics are obtained. It is impossible to get really superior noise figures in an IC preamplifier due to the processing steps that are required, each of which tends to add noise. It is also impossible to get precise resistor values and difficult to make both NPN and PNP transistors on the same chip. Our seven transistor circuit is a basic op-amp type system. You add the equalization needed for your application, just as you would with an IC' op-amp module. The 2 x 2 fiberglass circuit board is designed so that it may be wired, or plugged into PC edge connectors. Distortion is less than .01% at any audio frequency. Suggested power supply is ± 15 Volts DC @ 10 Ma. which may be obtained from any of our power amplifiers except # 140.

195 Preamp Kit
Shipping Weight 8 oz.\$ 8.75 PPd





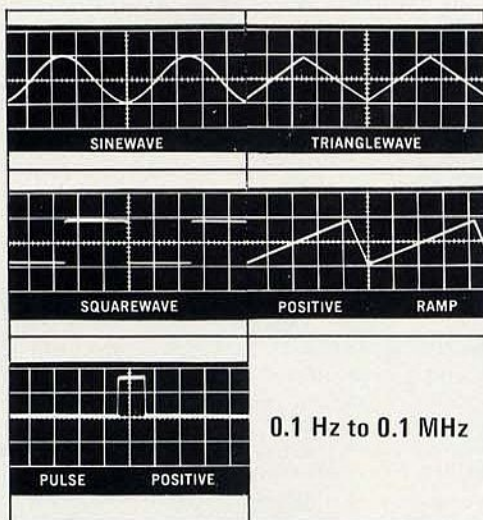
FUNCTION GENERATOR

Now, thanks to IC technology, everyone can afford one of these versatile waveform generators. This is the ideal general purpose signal generator. Use it for checking audio equipment, digital circuits, sweep circuits, or anywhere you need a variety of waveforms.

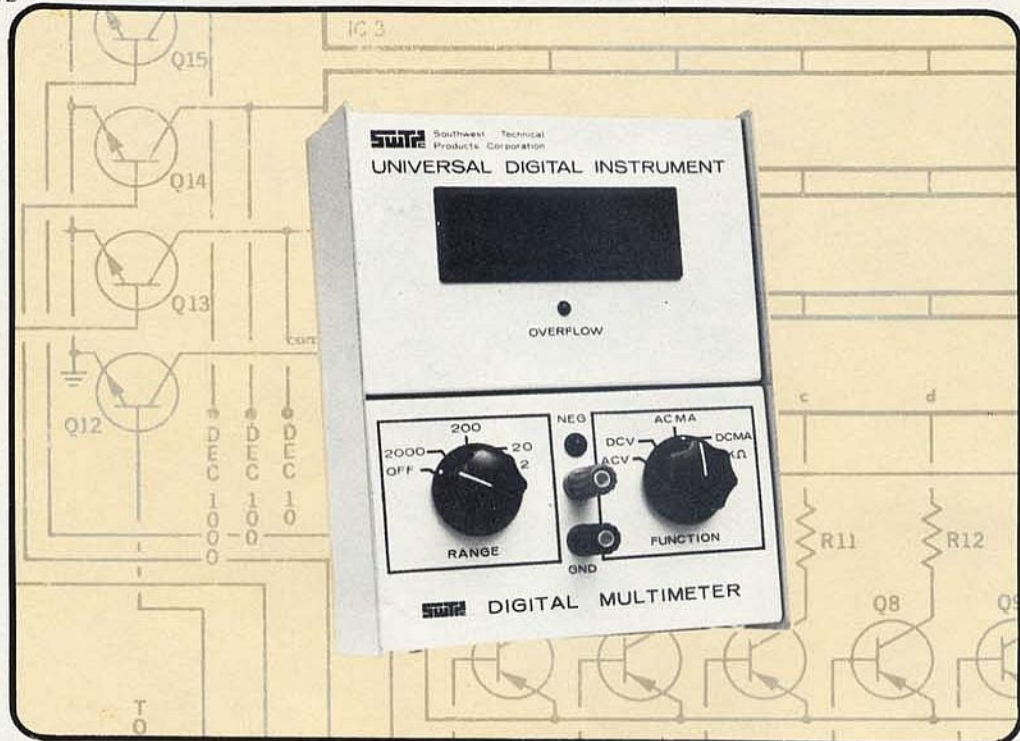
Construction is very simple due to extensive use of circuit boards. Only the offset, level and frequency controls are wired. Our kit features switch selection of waveform, frequency range and type of offset. Output amplitude is constant to less than ± 1 dB on any range and with any waveform. Sine wave distortion is less than 1% from 20 to 20,000 cycles. Square wave and pulse rise times are less than 0.25 microsecond. Accuracy is 1% on the range calibrated and better than 5% on all other ranges.

The Instrument is housed in an impact plastic case for maximum drop protection. Case size $5\frac{1}{2} \times 6\frac{1}{4} \times 2\frac{1}{2}$. Power required 115 Volts AC.

FG-2 Function Generator Kit
Shipping Weight 3 lbs.\$39.95 Ppd



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



UNIVERSAL DIGITAL INSTRUMENT

- * FIRST PORTABLE DIGITAL SYSTEM
- * FOUR DIGIT READOUT
- * TIME BASE and DIVIDER
IN MAINFRAME

The first digital instrument kit to offer the convenience of portable, battery powered operation. Our new digital mainframe is without question the best possible choice for those who want a digital instrument with the most versatile possible range of applications. This system can do more and at less cost than any other digital instrument kit available. You get a full four (4) digit LED readout. Not a skimpy two digit plus overrange system

as in other low cost units. In addition to this the mainframe has its own .001% accurate crystal timebase and a programmable MOS divider circuit. This allows the mainframe to supply timing signals at almost any frequency necessary to the various plug-ins. This simplifies the circuits needed in the plug-in units considerably and makes them rather inexpensive compared to similar equipment having similar features.

The plug-in units can be changed very quickly when you want to do a different job. The instrument is housed in a rugged 6 x 7½ x 2½ steel case, which is finished with a tough epoxy enamel. With this system you will be able to make many types of measurements, with digital accuracy and at minimum cost. Photo shows the VM-3 "Digital Multimeter" installed on the mainframe.

Universal Digital Instrument Mainframe Kit
UDI-1 (less any plug-in units).....\$59.95 PpD
UDS-1 Optional Line Power Supply
for above.....\$11.75 PpD



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

DIGITAL MULTIMETER

Measure: Volts (AC and DC), current and resistance with digital accuracy and convenience. Our digital multimeter provides you with 1% accuracy over the entire range of 2 to 2000 Volts, 2 to 2,000 Milliamps and 2 to 2 Mg Ohms full scale. This plug-in features an accurate, noise immune A-D conversion system that is made possible by the programmable divider in our mainframe. In addition to this you also get automatic polarity indication, and switching. No need to ever reverse the tests leads again.

VM-3 Digital Multimeter Kit\$39.95 Ppd

FREQUENCY COUNTER

Frequency counter plug-in for the Universal Digital Instrument. This plug-in allows you to measure frequency or pulse rate from 0.1 Hz to 20 MHz. with .001% accuracy (± 1 count). Sensitivity is 100 Mv. up to 2 MHz and 500 Mv maximum over 2 MHz. Input impedance is 1 Meg Ohm shunted by 20 pf. An external trigger level control is provided so that the trigger level may be set correctly on complex waveforms.

Frequency Counter Plug-in Kit—2½ lbs. # FC-3\$24.95 Ppd

TIME BASE

The time base plug-in for the Universal Digital Instrument is a good example of the simple handy plug-in units that can be offered due to our unique mainframe divider circuit. This plug-in provides a source for precision symmetrical square waves. Use it for a scope calibrator, test equipment range adjustments, timing signals or any other type application that requires a stable crystal controlled frequency reference.

Time Base Plug-in Kit—2½ lbs. # TB-3\$13.75 Ppd

CAPACITY

Another very handy instrument to have around the shop. The capacity plug-in lets you measure the capacity of any capacitor from 10 pf to 10,000 mfd quickly and exactly. The circuit uses a safe low voltage for testing and a discharge system of measurement. This prevents any possible damage to low voltage capacitors and eliminates any effects that leakage might have on accuracy.

Capacity Plug-in Kit—2½ lbs. # UC-1\$24.95 Ppd

TIME PERIOD

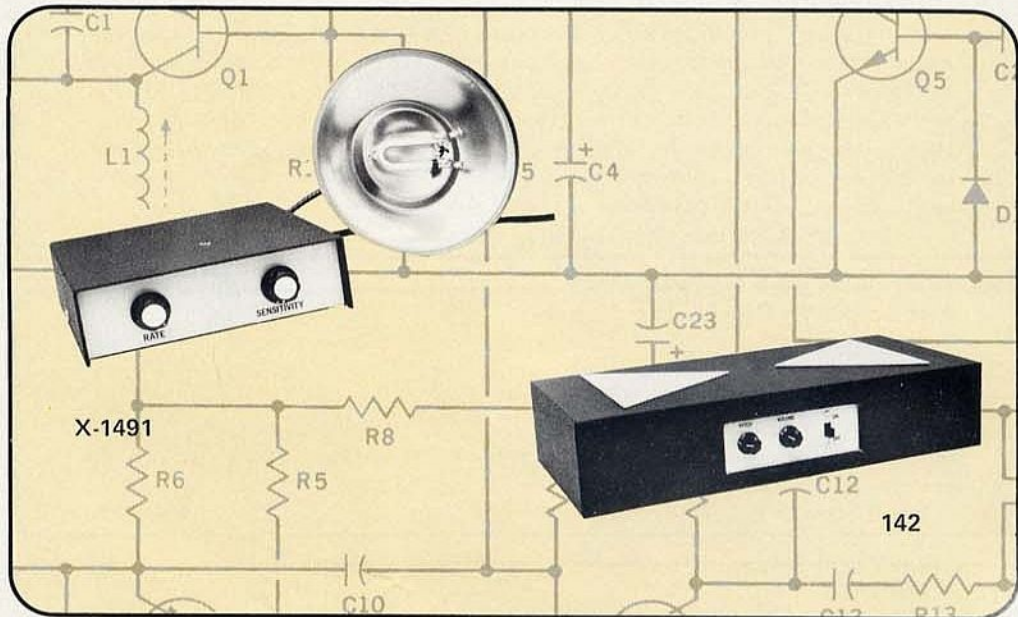
The electronic stop watch plug-in. This handy instrument lets you time the duration of events, or the time between two events with .01% accuracy. The plug-in will time events as short as 10 microseconds, or as long as a million seconds. You can use it for high speed applications such as shutter testing on cameras, or bullet velocity, or you can use it for low speed applications such as slot car races, track and field events, etc.

Time Period Plug-in Kit—2½ lbs. # TM-3\$14.95 Ppd

Blank (unpunched) plug-in unit with connectors for your own custom plug-in designs. Painted and formed as on above units.

BP-1\$3.95 Ppd





PSYCHEDELIC STROBE LIGHT

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 chrome plated. Top covering is textured black vinyl. Cabinet matches Sonolite Color organ. Polished 5½" reflector.

X-149C Psychedelic Strobe Kit.
Shipping Weight 2 lbs.....\$17.50 PPD

THEREMIN ELECTRONIC MUSICAL INSTRUMENT

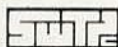
A modern, solid state version of the Theremin all electronic musical instrument. Two antenna plates, operated by hand capacity, control the pitch and volume of the sound. Add this to your combo for a really unique and different sound.

Our revised version of this instrument now has fully shielded coils and a new tuning circuit. Adjustments are fast and noncritical.

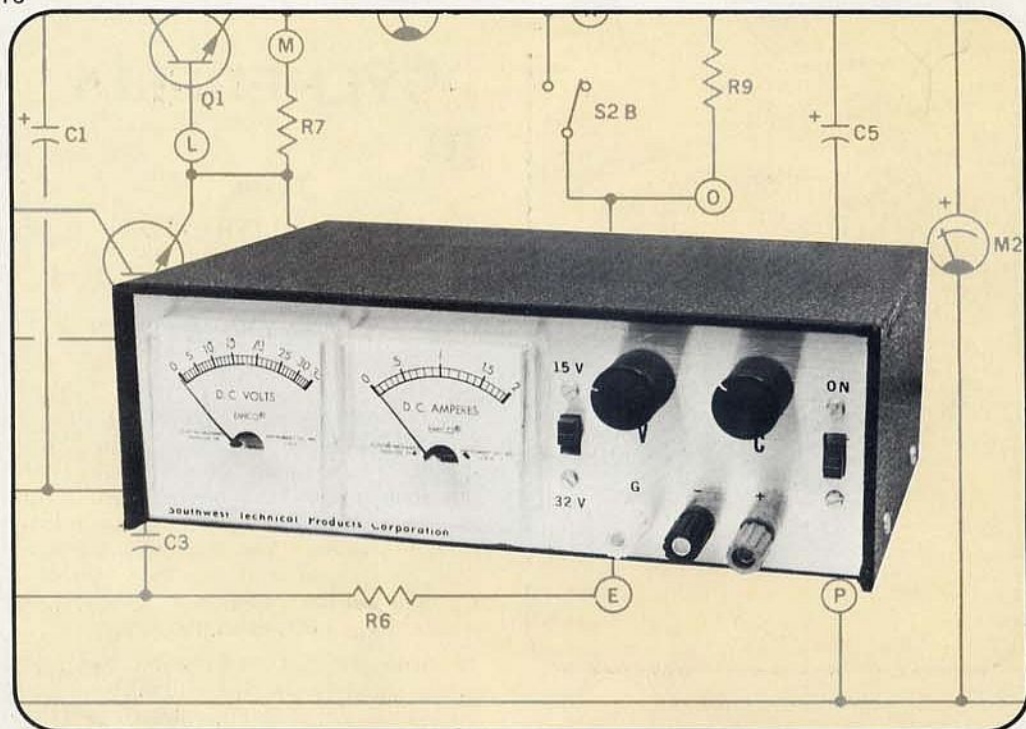
#142 Complete kit for Theremin - with cabinet & Antenna
Shipping Weight 4 lbs.....\$22.75 PPD

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



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



SHORT PROOF POWER SUPPLIES

SINGLE POLARITY 0 ± 35 VOLTS DC 0-2 AMPS

High capacity 0-2 Amp power supply for use where only a single polarity power supply is needed. May be used for either positive, or negative ground circuits. Voltage is adjustable from 0 to 15 and from 15 to 35 Volts. Current limiting is adjustable from 10 Ma. to 2.0 Amps.

Cabinet is all metal with a vinyl covered top, and a brushed gold front panel.

143 Power Supply Kit
Shipping Weight 8.0 lbs.\$41.75 PPd

SPECIFICATIONS

Regulation.....1% or 0.1 Volt for
100% load change
Ripple......03% or 10 Mv. Maximum
Voltage Range.....0-15 and 15-35 Volts DC
Input......110 to 125 Volts AC

DUAL POLARITY 0 TO ± 20 VOLTS DC 0-1 AMP

The ideal power supply for operational amplifier circuits and any others requiring a split polarity power supply voltage. The voltage control changes both the positive and negative output voltage by equal amounts when adjusted. Current limiting range is 50 Ma. to 1.0 Amp.

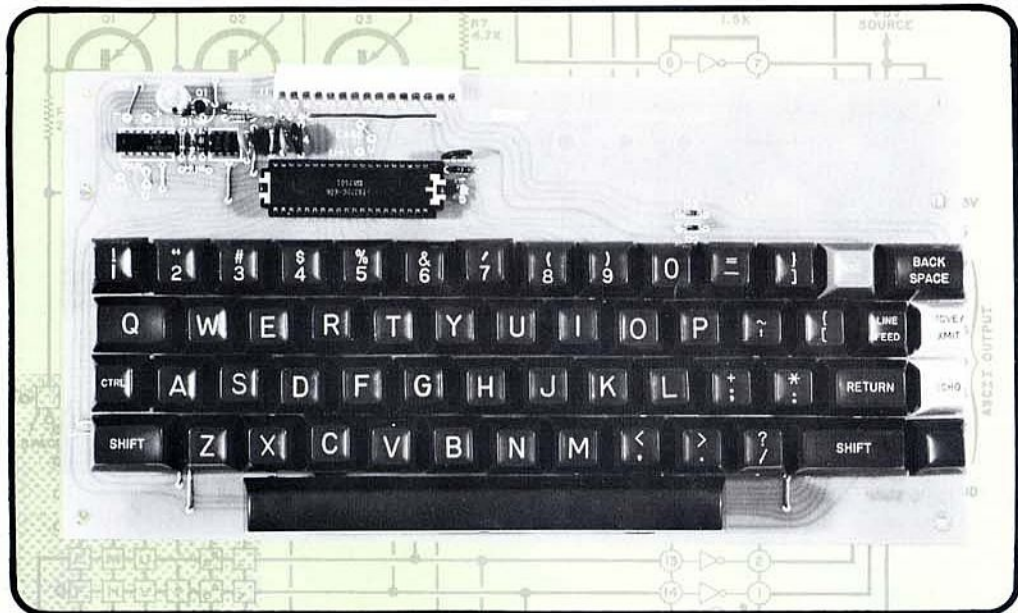
Cabinet is same as single polarity type.

243 Power Supply Kit
Shipping Weight 8.0 lbs.\$41.75 PPd

SPECIFICATIONS

Regulation......05% or 0.1 Volt for
100% load change
Ripple......02% or 5 Mv. Maximum
Voltage Range..... 0 to ± 20 Volts DC
Input......110 to 125 Volts AC





KEYBOARD and ENCODER

- * FULLY PROFESSIONAL SYSTEM
- * 56 KEYS
- * ONE CHIP ASCII ENCODER
- * AUTOMATIC REPEAT

The KBD-5 is the latest version of our popular keyboard kit. It provides 56 keys with selectable upper and lower case, or TTY style outputs. The keyswitches are full typewriter travel, with super reliable crossbar action gold plated contacts. Keytops are double shot molded, so the markings can never wear off. All parts for the keyboard and encoder are mounted on an 11 5/8 x 6 1/8 epoxy-fiberglass circuit board. The spacebar is a full 6 inches long and fully pressure equalized.

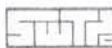
The complement of keys includes upper and lower case characters and numbers, brackets and parenthesis, two shift keys, carriage return, line feed, escape, two typewriter type

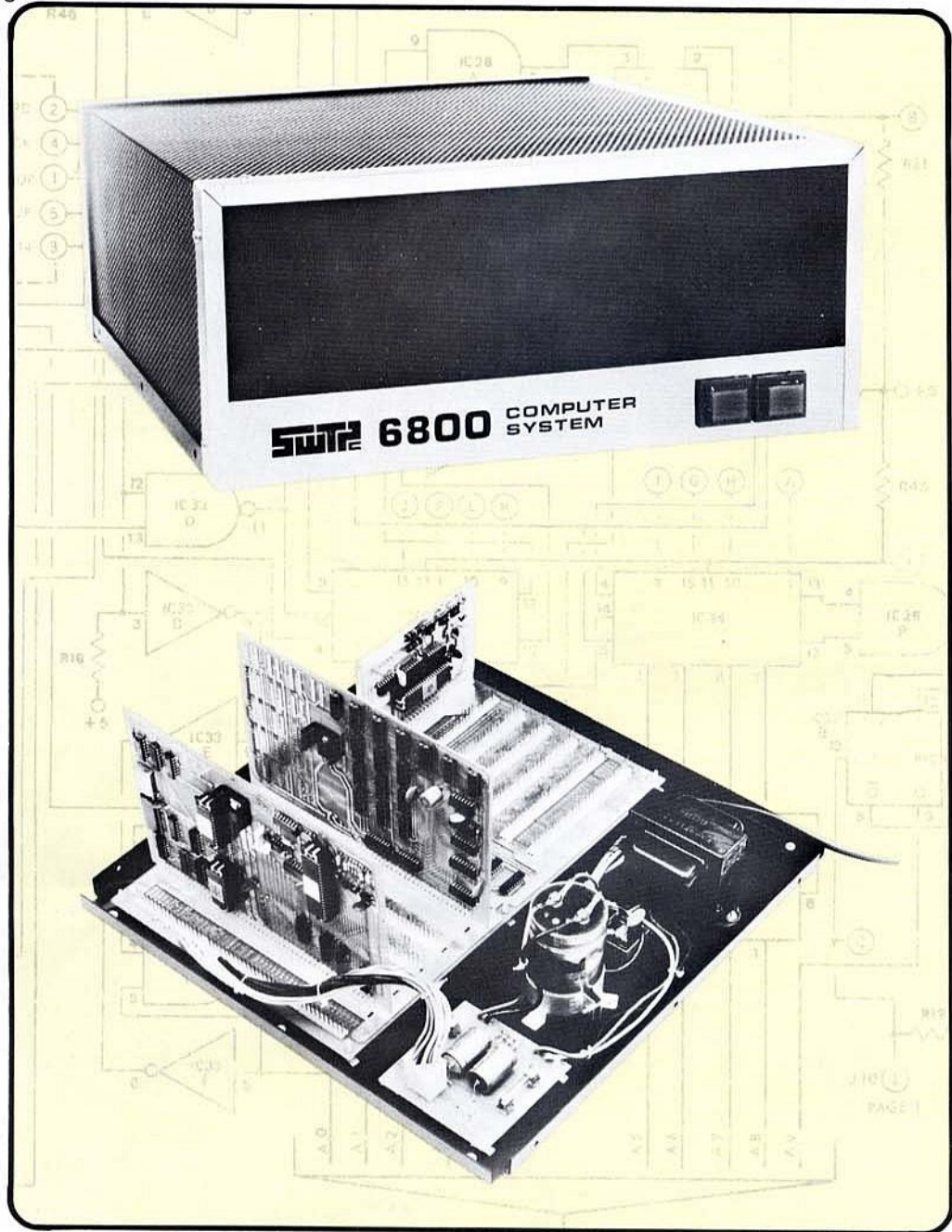
user defined keys and two push on/push off user defined keys for locked ON control functions such as "Echo" ON/OFF and "Receive -Transmit" ON/OFF on the CT-1024 terminal system. The encoder is capable of supplying 88 different ASCII characters and commands. The user defined keys on this keyboard may be very easily wired to provide any of the less common ASCII commands.

The keyboard also features a unique repeat circuit. If you hold any of the keys down for more than a second, that character will automatically repeat itself several times a second until the key is released. It even works when generating control functions which is almost impossible to do using a conventional keyboard with a separate repeat key.

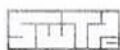
The keyboard may be jumper programmed for upper case only operation as required by some systems. Parity selection if desired is fully jumper programmable as well. Connections are made to the keyboard thru a fifteen pin edge connector along the upper left edge of the board. Power requirements for the unit are +5 VDC @15 Ma. and -12 VDC @10 Ma.

KBD-5 Keyboard/Encoder Kit..... \$49.95





6800 COMPUTER SYSTEM



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

6800 COMPUTER SYSTEM

The SWTPC 6800 Computer System is designed around Motorola's outstanding 6800 microprocessor chip and its integral family of support devices. The basic system includes the following: 15 1/8" W x 7" H x 15 1/4" D chassis with cover, mother board, memory card with 2048 bytes of 8 bit static RAM memory, serial 20 Ma. TTY teletypewriter/RS-232 terminal interface card, microprocessor card featuring a ROM stored mini-operating system, power supply capable of driving the system with a full 16K bytes of memory, assembly instructions, diagnostics and programming manuals.

The 6800 microprocessor chip used in the system is a full specification Motorola component featuring 8 bit parallel data processing, 16 bit - 65K address buss, 72 instructions with seven addressing modes, maskable and non-maskable interrupts, two accumulators, an index register, variable length stack, DMA Capability, 1.1 microsecond cycle time and TTL compatibility.

The Motorola mini-operating system ROM used in the system gives the user complete teletypewriter/terminal control the instant the system is turned on. The ROM used is a standard Motorola part and makes the system program compatible with other Motorola products. The mini-operating system features a tape load/dump routine, a memory and register examine and/or change function and an execute user's program command.

In addition to the step-by-step assembly instructions included with the kit, there is a documentation package including Motorola's M6800 Programming Manual plus our own

200 page loose-leaf notebook containing programming information and examples, diagnostic and game programs and an application form to join Motorola's M6800 User's Group.

The system has been designed using flexible plug-together construction on solder coated, doubled-sided plated thru hole circuit boards. The system boards are fully buffered with on board voltage regulators for minimum noise and maximum reliability. The processor is fed from a crystal controlled clock which simultaneously generates five independent baud rate clocks for selectable serial interface data rates. Any combination of up to seven optional serial or parallel interface boards may be plugged onto the system to interface the computer with external devices. These inexpensive interface options are also built around Motorola 6800 family chips and are actually programmable within themselves.

Because of limited space, many of the SWTPC 6800 features and options could not be mentioned here. For complete information please write us and ask for document MP-01.

# MP-68 Computer System Kit (as described above)	\$395.00
# MP-MX Memory Option to expand from 2K to 4K.....	\$ 45.00
# MP-L General Purpose Parallel Interface Option.....	\$ 35.00
# MP-S General Purpose Serial Interface Option.....	\$ 35.00
CT-1024 Terminal System Kit configured for the SWTPC 6800 order 1 EA: CT-1024, KBD-5, CT-P, CT-S, CT-CA package price.....	\$275.00





CT-1024 ALPHANUMERIC TERMINAL SYSTEM

The CT-1024 Terminal System is a low cost alphanumeric video terminal designed to display sixteen line of 32 characters/line on a standard video monitor or slightly modified black & white television set. Together with its low cost options it may be used to display messages and data on a TV screen, to communicate with either local or remote computer systems, such as the SWTPC 6800 Computer System; or to store and recover data from an audio cassette tape recorder.

The terminal system is an upper case only, 64 character set ASCII device. The static RAM memories store a total of 1024 characters. 512 of these are displayed on the screen while the other 512 are stored in memory and may be accessed and displayed just by flipping a page select switch. The terminal features hardware and software carriage

return/line feed plus home up, erase to end-of-line and erase to end-of-frame functions.

The unit does not come with the pictured chassis, or keyboard and does not include the required video monitor or modified television set. Instructions for the addition of a video input jack to the television are included with the kit and a switch installed on the back of the TV set will allow one to select between terminal and normal television operation. The keyboard shown in the picture is a low cost option and must be purchased separately.

The system has been designed using flexible plug-together construction on solder coated, double-sided plated thru hole circuit boards. The terminal system including its full complement of plug-on option boards measures 12" L x 9½" W x 4½" H.

Because of limited space, many of the CT-1024 Terminal System and option board features could not be mentioned here. For complete information please write us and ask for document CT-01.

CT-1024 Terminal System kit
(as described above) **\$175.00 PpD**
CT-1024 Terminal System with options
configured for Computer applications (like
the SWTPC 6800)
order 1 ea. CT-1024, KBD-5, CT-P, CT-S, CT-CA
package price **\$275.00 PpD**



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

POWER SUPPLY:

This is the power supply designed to drive the CT-1024, or GT-6144 terminal system. It produces +5 VDC @2 A, -5 VDC @20 Ma., -12 VDC @20 Ma. and 6 VAC @20 Ma.

CT-P Power Supply Option Kit\$15.50

SERIAL INTERFACE:

This option is recommended when interfacing the CT-1024 Terminal System to both local and remote computer systems. Using a standard UART integrated circuit it translates all of the terminal's outgoing data to RS-232 specification serial form and does just the reverse when receiving. This insures high noise immunity and compatibility with most computer systems, cassette tape, storage systems, modems and acoustic couplers. The interfaces operates full or half duplex with programmable parity at a speed of 110 baud (10 cps). With optional parts installed it will also operate at 150 (15 cps), 300 (30 cps), 600 (60 cps), and 1200 (120 cps) baud.

CT-S Serial Interface Option Kit (110 baud)..... \$39.95

CT-SO Optional baud rate parts (150, 300, 600 and 1200 baud)..... \$14.75

COMPUTER CONTROLLED CURSOR:

This option provides both pushbutton and control character control over cursor positioning. The control character commands may be initiated by a computer; received thru one of the terminal's interface options or may be generated by entering assigned control characters from the terminal's keyboard. The latter eliminates the need for a multitude of cursor positioning switches. Jumper assignable cursor functions include Cursor Up, Cursor Down, Cursor Left, Cursor Right, Home-Up, Erase to End-of-Line, Erase to End-of-Frame, and Start Screen Read.

CT-CA Computer Controlled Cursor Option Kit..... \$15.50

PARALLEL INTERFACE:

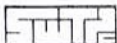
This board should be used when interfacing the terminal system to a parallel data device such as a printer or high speed data processing system. Although it is the fastest means of getting data in and out of the terminal system, there is no universal standard for parallel interfacing so caution should be exercised. The interface operates bi-directional data buss or two separate uni-directional data busses.

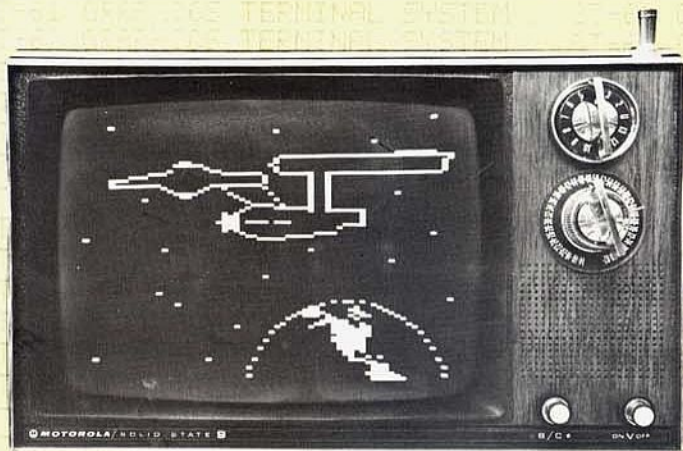
CT-L Parallel Interface Option Kit.....\$29.95

SCREEN READ:

This option makes it possible to transmit selected sequential data stored in the terminal's memory to an external device such as a computer thru one of the interface options. It allows you to enter and edit data on the terminal system and then "block transmit" the verified data out the interface option whenever you wish. The terminal's memory does not store control characters however, so control characters are not transmitted when the screen read option is used.

CT-E Screen Read Option Kit.....\$17.50





GT-6144 TERMINAL SYSTEM

The GT-6144 is a Graphic Terminal System that displays graphic data on a slightly modified black & white television set or standard video monitor. The terminal has its own 6,144 bit static RAM memory which eliminates the need to be used with a specific computer system. The terminal will operate with any computer system whose parallel interface outputs an 8 bit data word and "data ready" strobe. This includes "8080 type" and SWTPC 6800 Computer Systems.

The display screen is divided into an array of cells 64 wide x 96 high. Each cell is individually addressable and may be selectively turned ON or OFF by programmed commands from the computer. With a little imaginative programming fixed or moving images may be displayed on the screen for added enhancement to game programs. The photograph shows Startrek's starship the "USS Enterprise" generated using the graphics terminal with our SWTPC 6800 Computer System. Memory cell data can be loaded in less than 2 microseconds; much faster than most micro-computers can gener-

ate the information. The system features a power-up screen blanking circuit which may be enabled or disabled at any time thru program commands from the computer system. In addition, a unique image reverse feature allows you to select between white on black or black on white images by a simple one word command generated by your computer's program. The system will operate on either 50 Hz or 60 Hz power lines with American standard 525 line or European standard 625 line television sets or video monitors.

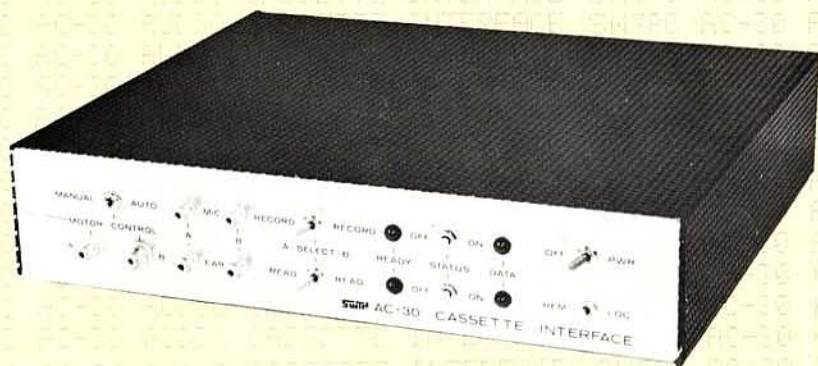
The unit is supplied less the chassis and does not include the required video monitor or modified television set. Instructions for the addition of a video input jack to the television are included with the kit. You may use the same television set or video monitor used by your CT-1024 terminal system. In fact, control commands from your computer allow you to display graphic, CT-1024 alphanumeric, or even a combination of the two, all on the same display device. Power requirements for the terminal are 5.0 VDC @2A, -12 VDC @20 Ma and 6 VAC @20 Ma. These requirements are met by the optional CT-P power supply.

GT-61 Graphic Terminal
System Kit \$98.50 PPd in US

CT-P Power Supply Kit
for GT-61 \$15.50 PPd in US



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



AC-30 CASSETTE INTERFACE

Been looking for a practical way to input and dump programs to your computer? Well your search is over.

With our new AC-30 Cassette Interface you will be able to store and input program data to any computer system having RS-232 serial interfaces and a UART circuit having an accessible 16X clock frequency. Data format is the "Kansas City" standard which was selected for its tolerance of speed variations in the recording device. The AC-30 may be used with any cassette recorder of reasonable quality.

If both your computer and terminal have accessible 16X UART clocks and will operate at 300 baud—as do our 6800 computer and CT-1024 terminal system—the AC-30 may be used between the terminal's serial interface and the computer's control inter-

face. This eliminates the need for a separate interface to drive the cassette unit. It also allows you to use the computer system's tape load and dump routines built into Mikbug® or similar ROM software.

Independent control circuits are provided for two audio cassette recorders (not included in the kit). One recorder's tape may be read while the second is recording a new updated tape; making it possible to generate new program tapes, data tapes and to create program object tapes while reading and assembling program source tapes. The operating mode for each recorder is selected by switches on the front panel and LED indicators show the mode that is selected at any particular time. Computer controlled record, play and motor control commands may be used with this system if they are available from the terminal being used. This feature is available on our CT-1024 terminal if the CT-CA cursor control card is installed.

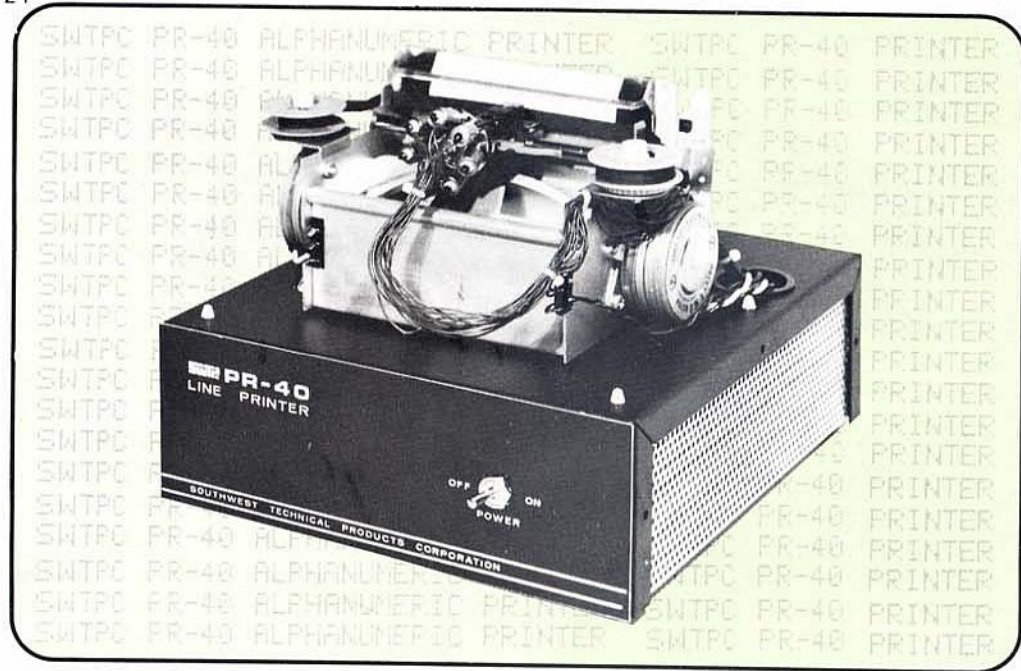
The AC-30 is housed in a 12¼" x 3" x 12½" aluminum chassis. It is powered by a self contained 115/230 Volt AC 50-60 Hz power supply. Data is FSK format using 1200 Hz and 2400 Hz at a 300 baud data rate. Recorder speed tolerance need be only $\pm 20\%$.

®Trademark Motorola

AC-30 Cassette Interface Kit \$79.50 Ppd



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



PR-40 ALPHANUMERIC PRINTER

Been looking for a reasonably priced printer? The SwTPC PR-40 may be just what you have been wanting. It is a 5 X 7 dot matrix impact printer similar in operation to the well known Centronics printers. It prints the 64 character upper case ASCII set with 40 characters/line at a rate of 75 lines/minute on standard 3 7/8" wide rolls of adding machine paper. One complete line is printed at a time from an internal forty character line buffer memory. Printing takes place either on receipt of a carriage return or automatically whenever the line buffer memory is filled.

The printer can accept character data as fast as one character per micro-second or as slow

as you wish to send it. The printer's seven parallel data lines are TTL compatible and may be enabled by a single "data ready" control line or by separate "data ready" and "data accepted" handshake control lines. This universal approach makes the printer compatible with all computer and terminal systems having an eight bit parallel interface; including of course the SWTPC 6800 computer and most "8080" based designs.

The printer mechanism is mounted on a black anodized aluminum chassis which houses the electronic circuits and the 115/230 Volt AC 50-60 Hz power supply for the unit. This makes the printer's overall dimensions 9 5/8" wide X 10 1/2" deep X 8 3/4" high.

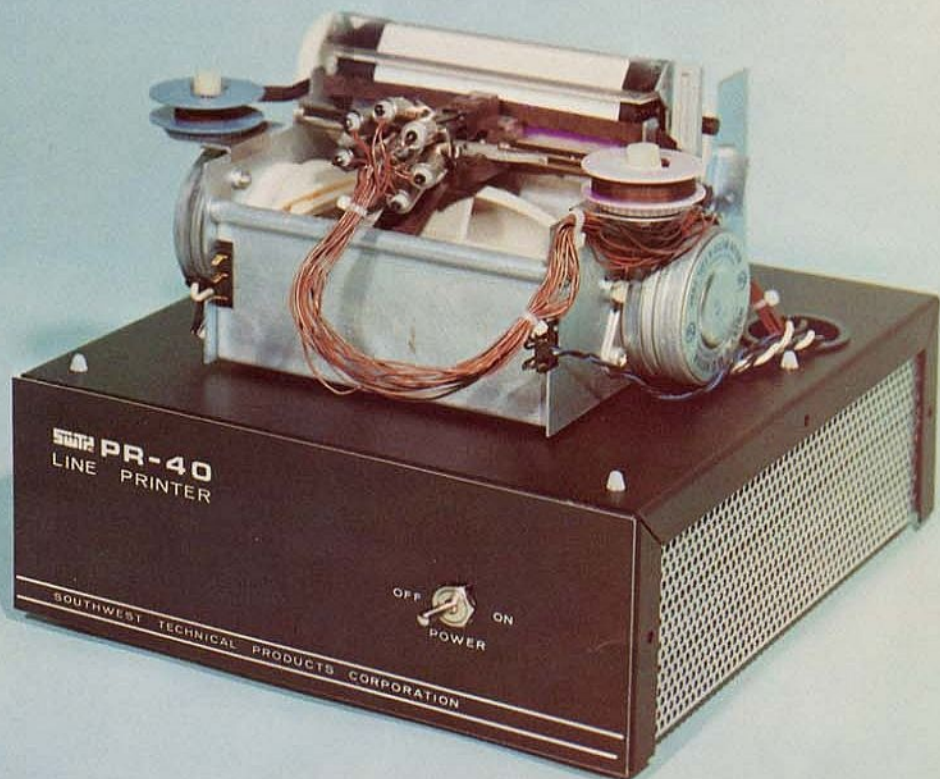
Each unit is shipped with one ribbon and one roll of paper. Extra ribbons are available from us while the standard adding machine paper may be purchased in office supply stores.

PR-40 Alphanumeric

Printer Kit..... \$250.00 Ppd in U.S.



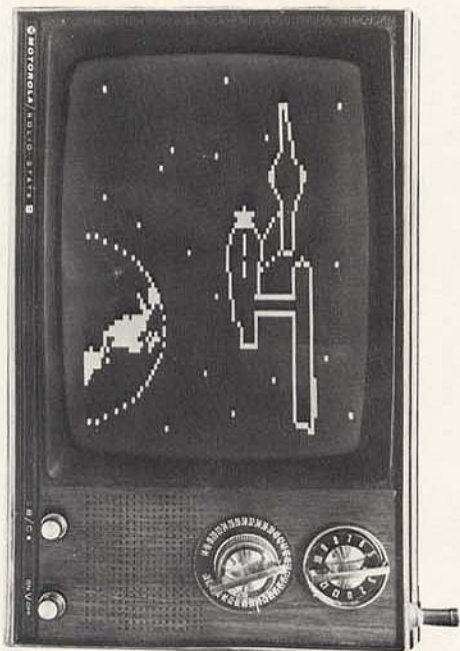
Southwest Technical Products Corporation, 219 W. Rhapsody, San Antonio, Texas





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

Price 25c



NEW!

Deliver to Addressee or Occupant

