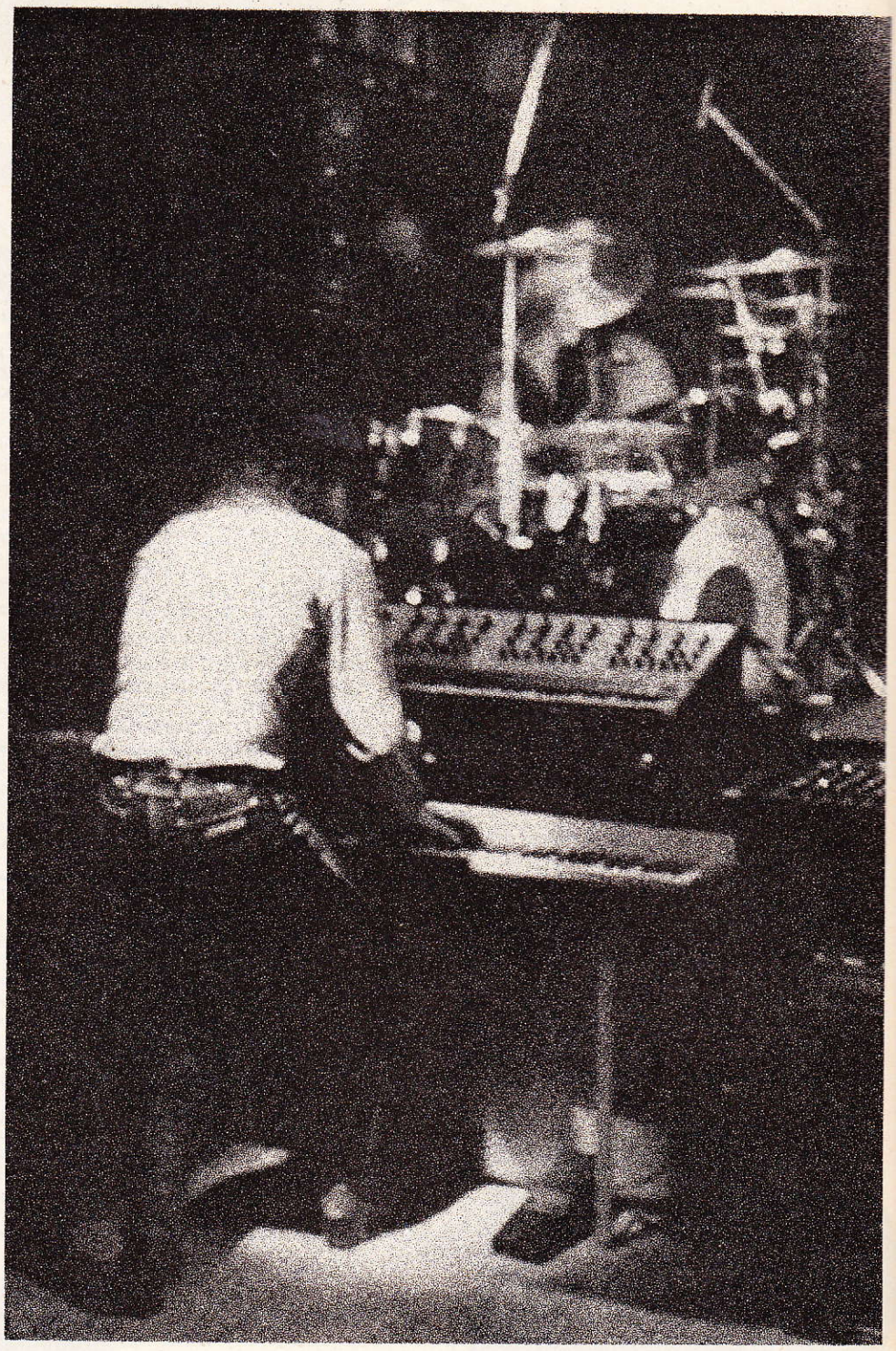
MUSIC EMPORIUM USA

DISCOUNT CATALOG 1980

Keyboards and Synthesizers



Although some of the greatest classical music was written on a keyboard instrument, many composers turned to the orchestra or other mediums to realize the freedom of expression, pitch and tonal color he heard in his mind. It wasn't until the 20th Century and the advent of electricity that the keyboardist was able to expand beyond the confines of piano, harpsichord and pipe organ. The first natural step was to amplify a sound which was generated physically, such as a piano hammer striking a string or tuned piece of metal. The vibrations are then transmitted to an amplifier through pickups very similar to those found in electric guitars. This type of instrument is known as **ELECTRO-MECHANICAL** — the sound is generated mechanically and processed electronically. The Hohner Clavinet and the Wurlitzer 200 are examples of modern day electro-mechanical instruments and feature touch sensitivity with regard to volume due to the type of mechanism used.

Electronic pianos, on the other hand, create their sound totally through electronic circuitry and the key is usually nothing more than a glorified switch. These units, as well as string machines, borrow from electronic organ technology where an ultra-high frequency is generated for each of the 12 notes within an octave and divided down to produce the pitches for the octaves below. Fixed filtering and other effects such as sustain decay are added to create the desired effects. As touch sensitive electronic keyboard mechanisms can be expensive, many low priced units in this category do not offer touch response.

The last decade has seen a quantum leap in electronic technology and with it the birth of the synthesizer. The basic concept involved in synthesis is to control the pitch, the timbre and the amplitude. While digital synthesizers are still on the drawing board or in the high dollar area, a wealth of analog synthesizers are available in an affordable price range, some with digital programmers. These analog units work on the principal of voltage control. A controller, such as a keyboard, supplies a **CONTROL VOLTAGE (CV)** which drives a **VOLTAGE CONTROLLED OSCILLATOR (VCO)** to the desired pitch. Other controllers such as sequencers, guitars and drums can be used to trigger a synthesizer providing the proper interface is used. Standard voltage — pitch ratio is one volt per octave. Most VCOs put out sawtooth and square waves which have characteristic harmonic structures. **FILTERS** allow processing of these raw waveforms to alter the harmonic content to a certain degree. A **LOW PASS FILTER** allows only the sounds below the cut-off frequency to be heard. In other words, it attenuates the high overtones and allows only the lower, mellower harmonics to pass. A **HIGH PASS FILTER** does the opposite and allows only the sounds above the cut-off frequency to be heard, making the sound appear thinner. A **BAND PASS FILTER** combines low and high pass to pass only the sounds between high and low cut-off points, or only the sounds within a certain frequency *BAND*. This type of filter can be invaluable in simulating the harmonic structures of existing instruments. A **RESONANT FILTER** allows the cut-off frequency to be emphasized, imparting further overtones. Most funky synthesizer sounds involve a degree of resonance. Too much emphasis or resonance can force the filter into oscillation of a pure sine wave at the pitch of the cut-off frequency.

The control voltage from the keyboard can control a **VOLTAGE CONTROLLED FILTER (VCF).** If the filter is in oscillation, the keyboard can "play" the filter. Voltage control allows the cut-off frequency to be raised and lowered corresponding to the **CV** used to control the pitches of the **VCOs** from the keyboard. The unique advantage of voltage control is the ability to change sound over time automatically. **ENVELOPE GENERATORS** can influence a change in control voltage automatically, telling the filter how long to take to reach its full cut-off frequency and if and how the **CF** will change after the initial level is reached.

Common envelope parameters include Attack, Decay, Sustain and Release **(ADSR).** The controller being used supplies gate and trigger information which tells the **EGs** when a new key is depressed and how long it is held. The voltage controlled resonant filter, influenced either by keyboard **CV** or envelope, is responsible for creating most "standard" synthesizer sounds.

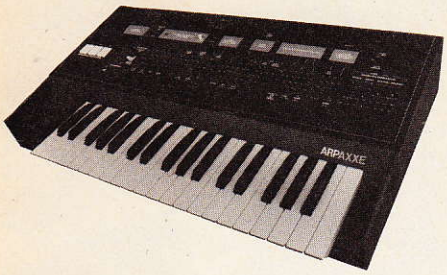
Just as the **VCF** changes the harmonics of tone over time, a **VOLTAGE CONTROLLED AMPLIFIER (VCA)** can be influenced by gate, trigger and envelopes to change the amplitude or volume over time. Envelope functions allow the player to determine how long the sound will take to reach full volume and if and how it will sustain, both before and after the key is released.

If an oscillator is forced into sub-music pitch ranges, it can be used as a source of **MODULATION** instead of a signal source. Some units have **LOW FREQUENCY OSCILLATORS (LFOs)** for this function alone. The waveform of the **LFO** determines the effect (vibrato, trill, etc.) and the pitch of the **LFO** corresponds to the speed of the effect. Other sources, such as noise, can modulate the signal as well.

An important concept to understand is that most synthesizers require at least one oscillator for every note simultaneously playable on the keyboard. Monophonic units put out one control voltage, allowing only one key at a time to incur a response. You could have a million **VCOs,** but if one **CV** is supplied, they'd all play in proportion to each other and still only allow one key at a time to react. Several duophonic units are available (two-note response). Anything above two-note response can be safely classified as polyphonic. If the same basic technology is used, a sophisticated keyboard needs to be employed to scan for key depressions and assign X-number of **VCOs** to the keys in one order or another. This works great but can get costly because you need a **VCO** for each simultaneous key depression. (This includes sustaining notes as well.) The answer to the cost problem is to borrow the high frequency division technique from organ technology and cross-breed it with voltage controlled components beyond the oscillator stage. This allows as many notes to be played simultaneously as there are on the keyboard. Since this does not employ the assignment or gliding of **VCOs,** certain synthesizer effects such as portamento are not possible. (Portamento, or glide, refers to a gradual change in control voltage from one key to the next instead of going directly to the new voltage.) The ability to play as many notes as you want simultaneously may make up for this, but that's where personal preference comes in.

None of these instruments offer every single feature and sound possible, although many come close. All of these units are of high quality for the dollar. Your decision should be dependent on your music, your needs, and your playing style.

Monophonic & Duophonic Synthesizers



Arp Axxe (monophonic) This unit's single VCO can produce sawtooth and variable rectangular waves simultaneously. The LFO can also produce those simultaneous waveforms for unique modulation effects. Arp's linear control sliders provide excellent mixing and routing of functions. The ADSR envelope can be routed to influence the VCOs' frequency and pulse width in addition to normal LFO, sample/hold and keyboard control of oscillators and filter. Noise is available at the audio mixer section for atonal effects. Porportional Pitch Control (PPC) rounds out performance capabilities with 3 touch sensitive pads - pitch bend down, vibrato and pitch bend up. Rear panel jacks allow the Axxe to be used with compatable Arp products.

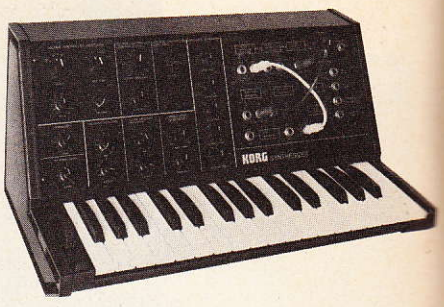
#30ARAX **$525.00**

shipping weight 43 lbs.

Micro-Moog (monophonic) The Micro's temperature regulated VCO provides for unique waveshape control with a rotary attenuator which mixes from sawtooth through square and variable rectangular waveforms. In addition, a sine wave can be mixed in 1 or 2 octaves below the full range oscillator's pitch. Pink noise can be used as a sound source or a modulation. Performance oriented features include a pitch ribbon (±6 whole steps) immediately to the left of the modulation wheel. The wheel is programmable for vibrato, trills, sample/hold, filter sweep, waveshape sweep and much more. A full compliment of rear panel jacks offer total access to internal functions.

#30MOMC **$572.00**

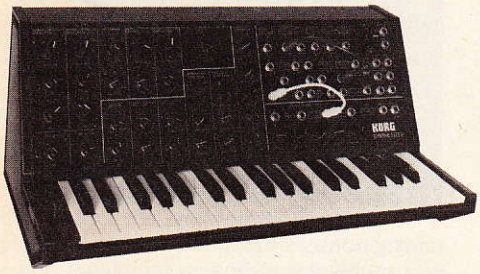
shipping weight 32 lbs.



Korg MS-10 (monophonic) The new MS-10 offers most synthesizer basics in an incredibly small package with a price to match. The unit's forte is the front panel patch bay previously found only on larger studio and modular units. The single VCO allows you to choose between 4 different waveforms and select 1 of 4 octave ranges. The waveshape of the modulation generator is continuously variable and there are ample provisions for interface with external signals for audio and modulation use. A control wheel is located to the left of the keyboard, with function assignment available on the patch bay. A good, inexpensive building block for that future system!

#30KO10 **$375.00**

shipping weight 30 lbs.



Korg MS-20 (monophonic) The big brother in the MS series utilizes two VCOs independent of each other in pitch, volume and waveform. A second envelope has been added along with a voltage controlled high pass filter. Full potential is realized via front panel patching to sample/hold, white and pink noise, voltage controlled clock and every other function in the instrument. The programmable control wheel is supplemented by an assignable momentary contact switch. The External Signal Processor (ESP) incorporates a frequency-to-voltage converter and allows a microphone, guitar or other input to control the synthesizer's pitch and other functions. The inexpensive answer to total versatility!

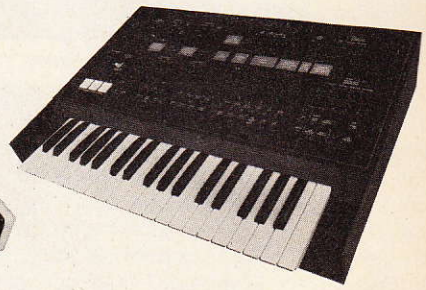
#30KO20 **$595.00**

shipping weight 36 lbs.

Multi-Moog (monophonic) The Multi incorporates all the features of the Micro-Moog, adding a second VCO tunable ±5 whole steps with its own variable waveshape control and a forty-four note force-sensitive keyboard. Force sensing can be programmed for pitch bend, vibrato, trills, sample/hold, filter cut-off, oscillator synch and most other functions available to the modulation wheel. Additional on/off performance switches have been included along with fully comprehensive system interface points for maximum flexibility. The Multi-Moog goes a long way toward creating a multi-oscillator texture with that "fat" Moog sound.

#30MOML **$975.00**

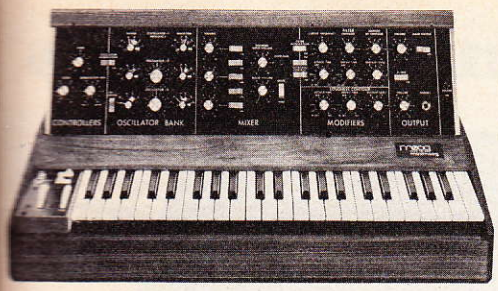
shipping weight 43 lbs.



Arp Odyssey (duophonic) Long established as an excellent studio, educational and live synthesizer, the Odysesy now comes standard with Arp's PPC-3 touch sensitive pads for pitch bend down, vibrato and pitch bend up. Two full range VCOs are synchable or can respond to simultaneous key depressions for true duophonic response. Waveforms are sawtooth and variable rectangular with processing options including resonant low-pass VCF, high pass filter, sample/hold, ADSR and AR envelopes and ring modulation. White and pink noise can also be used as sound sources. Linear mixing sliders are supplemented by two-way switches and up-front pedal function assignment, providing excellent flexibility under any circumstances. Jacks can be found on the rear panel for portamento on/off, filter/voltage pedal and full system interface.

#30AROD **$1,043.00**

shipping weight 45 lbs.



Mini-Moog (monophonic) Considered to be an industry standard, the Mini-Moog comes with all new temperature stabilized oscillators. Each of three VCOs are independent with regard to tuning, volume and waveform, and can be used in the audio or low frequency range. Six distinct waveforms are available on each oscillator and white or pink noise can be mixed as a sound or modulation source. Control panel angle can be adjusted by the performer to suit his or her setup. External input, CV out, trigger out, filter in, volume in, pitch in, glide on/off and decay on/off are provided in the form of front and rear panel jacks. Pitch and modulation wheels, easy access on/off controls and headphone output make this quite a performance-oriented instrument!

#30MOMN $1,295.00

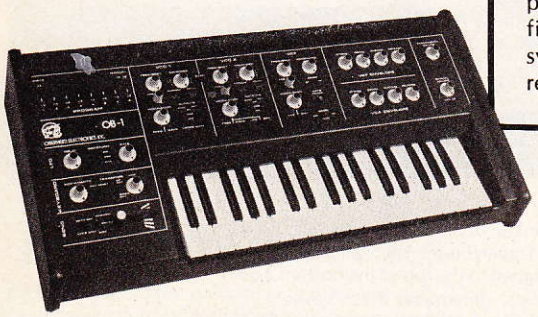
shipping weight 45 lbs.

ARP 2600 (duophonic) The 2600 might best be viewed as a portable studio synthesizer for live, educational and recording use. The front features Arp's linear slider mixing approach, however all hard-wired signal routings can be over-ridden via patch cords and patch points on all functions. Other features include three independent VCOs with simultaneous waveform outputs, voltage processors, ring modulation, white and pink noise, internal reverb and built-in monitors. A separate keyboard assembly includes 2-voice memory, independent LFO, portamento, pitch knob and a pedal activated transposer. Outputs are stereo and 4-way multiple, adding to recording flexibility. Both sections come with latching cover.

#30AR26 $2,243.00

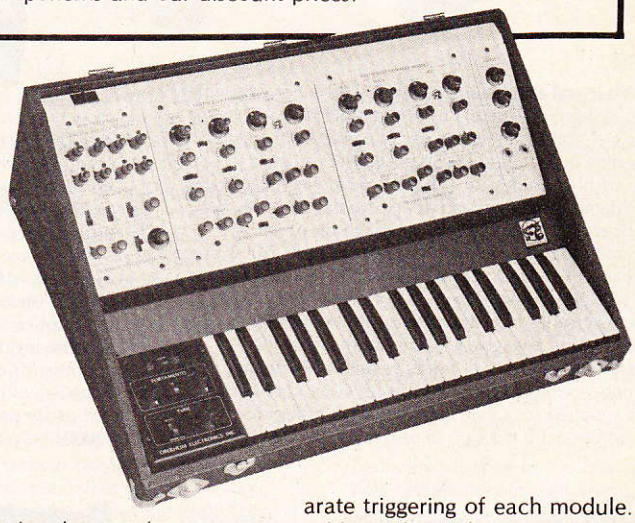
shipping weight exceeds UPS size restrictions and must be shipped truck or air freight.

At the request of the manufacturer, we have not published prices on Oberheim equipment. This is not to say that you will not find our prices competitive! Also, since Oberheim systems include many configurations and options, we welcome the opportunity to discuss your system choice with you. Please feel free to contact us at any time regarding components and our discount prices.



OB-1 Lead Synthesizer A user programmable monophonic synthesizer with two VCOs, noise source, resonant low pass VCF, two ADSR generators and delayable LFO. Both VCOs feature sawtooth and variable rectangular waves with sine waves available one octave lower. Oscillators are synchable and can be cross-modulated for ring modulation effects. All rotary control settings can be stored into an 8-position memory. Blocks of eight programs can be dumped onto a standard cassette through the optional Oberheim Cassette Interface, allowing the player to build up a library of personal patches to be recalled at any time. A unique left-hand control lever is multi-purpose for various pitch bend and modulation effects. Pedals are optional for filter and volume with additional jacks for CV in/out, gate in/out and external audio in.

#300BB1 Call or write for our low discount price.

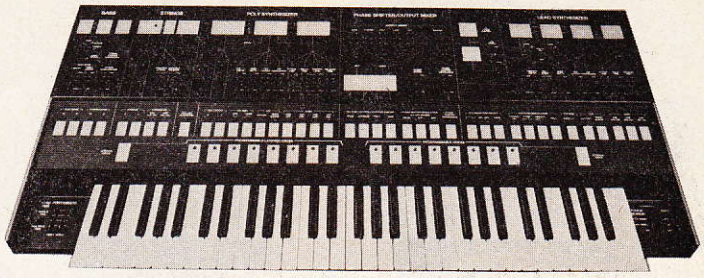


Oberheim Two Voice (duophonic) This versatile instrument employs two Synthesizer Expander Modules (SEMs), each containing a full synthesizer voice from two full-range synchable VCOs, a four stage multi-mode VCF, two ADS envelopes, a VCA and assignable LFO. Controllers include a thirty-seven note digital keyboard and a quantized Mini-Sequencer with dual simultaneous eight stage outputs, VC clock and sample/hold. The keyboard mode is assignable to unison for a four oscillator sound from one key depression or polyphonic for separate triggering of each module. Additional switching assigns left voice first, right voice first or unison. The sequencer's dual voltage outputs allow generation of any two 8 note sequences simultaneously or one module can be controlled by the keyboard while a sequence is provided by the other. Keyboard electronics include dual portamento, two octave transpose switch and pitch knob with center detent. Comes in heavy duty vinyl-covered wood case with cover and handle.

#300BTV Call or write for our low discount price.

Polyphonic & Polyphonic Strings

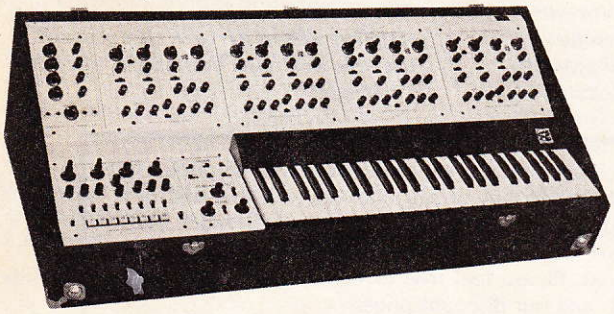
Arp Quadra Arp's newest multi-layer unit can produce strings, polyphonic synthesizer, lead synthesizer and bass synthesizer, all at the same time. If you're looking for a full sounding keyboard, this may be everything you need in one keyboard. Most front panel functions are sliders with LED display for corresponding on/off switch. Sixteen combinations of these 40 on/off functions can be memorized into an on-board programmer. Strings produce simultaneous 8' and 4' octaves with AR generator. 8' and 4' poly synth voices are processed by the resonant low pass VCF and influenced by ADSR, LFO and filter pedal. The lead voice is programmed from 2 tunable VCOs with mutual waveform and pulse width controls. This section has its own ADSR controls, VCF, vibrato, trills and two independent portamento time sliders. The lead synthesizer can arpeggiate chords automatically up or up and down. The bass voice features 16' and 8' voices for both electric and string bass. The entire section can be transposed down an octave and detuned from the rest of the instrument. The electric bass has a sub-group volume. These four sections and an external input are brought together in the mixer section and go to a master gain control for the entire instrument. Any or all of these inputs can be routed through the internal voltage controlled resonant phase shifter, which can be modulated by LFO, sample/hold, ADSR or pedal for unique effects. The 5

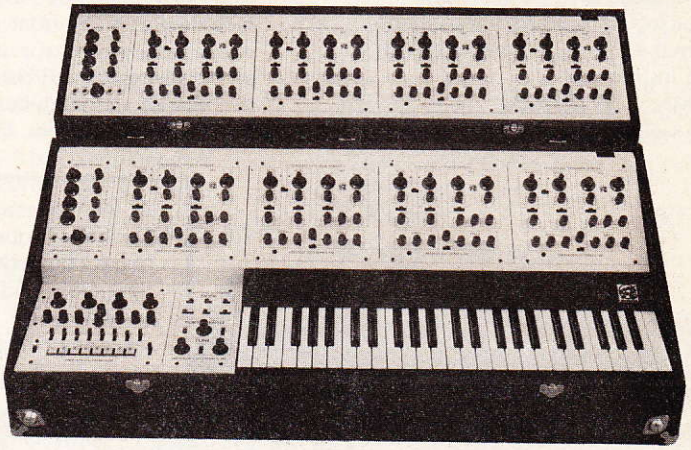


octave keyboard is touch sensitive for pitch bend or volume/brilliance. Rear panel features include 4 individual section outputs, stereo out, high and low mono out (phone and XLR), voltage pedal jacks for CV to lead VCF cut-off, poly/phasor and volume, on/off switch jacks for poly sustain, portamento, hold and pitch flat (½ step). Lead synth has CV in/out, trigger in/out and gate in/out while the bass synth has CV in/out and gate in/out. This micro-processor controlled multi-keyboard has many more tricks you have to hear to believe!

#30ARQU $3,995.00

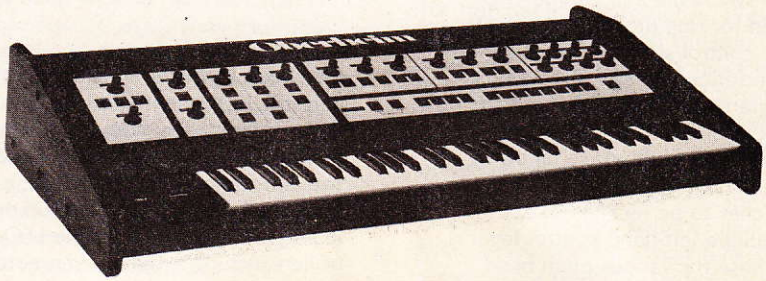
shipping weight exceeds UPS limitations and must be shipped truck or air freight.





Oberheim Four and Eight Voice Systems This unique modular polyphonic system is available as a complete 8 Voice instrument or as a 4 Voice mainframe. At the heart of the system lies a forty-nine note digital keyboard housed in the mainframe with 4 Synthesizer Expander Modules (SEMs) and a Digital Programmer. A second 4 Voice bank with the necessary keyboard and programmer logic can be purchased initially or added later to expand the system to its full 8 Voice potential. Each of these voices is individually controllable or all can be set for a homogenous texture. Once the player finds a patch or series of patches he or she wishes to use, the programmer can be engaged to store the most critical portions of the patches on all modules and recall them at any time. The non-volatile memory can store 16 patches and an interface is supplied for Oberheim's cassette system for storage of additional blocks of 16 programs. Keyboard modes include Unison, where one key depression triggers all modules, Polyphonic and Upper/Lower Split, allowing individual voices to be assigned to the top of the bottom 2 octaves. The "Reset-Continuous" determines if successive modules are assigned by the keyboard in ascending numerical order or if recycling takes place whenever SEM #1 is available. Master performance controls affect all modules and include tuning, 2 octave transpose switch, portamento and filter cut-off with jack for optional footpedal. The Output Module includes Master Volume, individual level and pan controls for each SEM, headphone jack and stereo outputs. Supplied with latching cover. Due to system variables, please call us for price information.

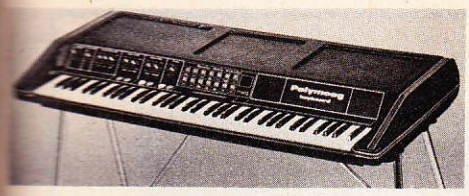
#300BFV Four Voice **#300BEV** Eight Voice



Oberheim OB-X Oberheim's newest polyphonic is designed as a totally programmable live performance synthesizer. It can be purchased as a complete 8 voice instrument or as a 4 or 6 voice user expandable model. Features include 2 oscillators per voice, 5 octave keyboard noise generator, polyphonic portamento and sample/hold, dual ADSR envelopes and auto-tune, which tunes all the oscillators in the instrument automatically. Virtually all front panel settings can be programmed into the 32 stage, non-volatile memory or recorded directly onto cassette without the need of an interface device. Two return-to-center levers are positioned to the left of the keyboard for pitch bend (wide or narrow) and modulation along with 1 octave up or down transpose switch. The filter can track the keyboard, oscillators can be synched or cross-modulated and voices can be played in unison at the touch of a button. Additional performance considerations include live program editing, a hold switch for freezing any note or chord for as long as desired, and outputs for optional pedals for vibrato, filter, sustain, and program advance. Accidental erasure of stored programs is prevented using an internal switch. The unit comes pre-programmed from the factory for instant sound!

#300BBX Call or write for our low discount price.

MUSIC EMPORIUM USA

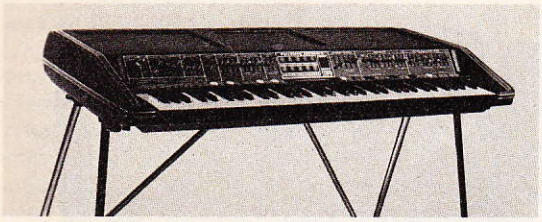


Polymoog Keyboard The 71 note Poly Keyboard produces its sound basically the same way the more expensive Polymoog does; however, the format has been rearranged to fourteen presets and limited variables. Preset voices include vox humana, string 1 & 2, piano, electric and honky-tonk pianos, clav, harpsichord, bass and brass chorus, rock organ, pipe organ and funk. Front panel variables are vibrato speed and depth, octave balancing and attack rate. In addition to master volume, an independent volume and cut-off frequency controls are provided for the separate filtered bass output on the lower 2 octaves. Moog's unique pitch ribbon is located direct center for easy reach from either hand. Outputs are stereo and filtered bass with full interface for the optional Polypedal controller or individual Moog accessory pedals.

#30MOPK $2,595.00
shipping weight exceeds UPS limitations and must be shipped truck or air freight.

#30MOPPC Optional Polypedal troller **$240.00**
shipping weight 28 lbs.

#30MOLS Optional Leg Set **$110.00**
shipping weight 16 lbs.



Polymoog 71 notes of totally polyphonic synthesizer with completely variable controls in addition to 8 factory presets - strings, piano, organ, harpsichord, funk, clav, vibes and brass. The instrument draws its full sound from a sawtooth wave at 8′ and 4′ levels and variable rectangular wave at 16′ and 4′ levels. The sawtooth rank can be detuned ±6 whole steps as well for chorusing and polytonal effects. The keyboard is electronically divided into the bottom 2 and top 4 octaves. Waveform ranks can be assigned separately or in combination for each section. The velocity-sensitive weighted action is tied directly into the VCA to produce dynamic response in some modes. Once a sound is set up, it can be processed through 4 separate channels: Direct, Mode (through preset filter chip), Resonant Filter (3-band resonant multi-mode filter, and VCF. Each section has its own output in addition to balanced and unbalanced mix jacks. It's also ready to accept the optional Polypedal Controller, allowing foot control of volume, pitch w/range pot, filter, sustain, trigger mode and external synth in. A 1 volt-per-octave signal and trigger are supplied by monophonic busses under the two keyboard sections to allow lead and bass line tracking. Other features include pitch ribbon, LED status display, separate LFOs and VCF and pulse width modulation, independent upper/lower loudness decay, single/multiple triggering and octave balancing.

#30MOPM $3,425.00
shipping weight exceeds UPS limitations and must be shipped truck or air freight.

Optional Polypedal controller **#30MOPPC $240.00**
shipping weight 28 lbs.

Roland RS-505 This forty-nine note machine generates strings, polyphonic synthesizer and bass voices simultaneously. 8′ and 4′ octaves can be selectively assigned to the upper and lower 2 octave sections of the keyboard for both strings and poly synth. Upper and lower strings each have balance controls 8′/4′ volume ratio. The resonant low pass VCF can be modulated by ADSR or LFO and shares final release time with the strings' AR generator. The bass section can create contra-bass, tuba and cello with separate AR and volume for the section. All sections can be processed through the 3-position ensemble effect. Other features include manual and automatic pitch shift and rear panel connections for pitch, filter, sustain, trigger in/out, external input, mono out, stereo out and bass out.

#30RO505 $1,356.00
shipping weight 31 lbs.

Arp Omni II With a proven track record on the road, Omni II can produce several layers of sound from a totally polyphonic forty-nine note keyboard. The string section, consisting of violins, violas, cellos, bass and AR envelope, can be mixed with polyphonic synthesizer for very full, multi-instrument sound. The synth section features 8′ and 4′ pitch levels simultaneously and a resonant low-pass VCF controlled by ADSR, LFO and/or external jack. A provision is made for slowing the internal phasor from the strings and use it for processing the synth section. A separate bass voice can be produced from the bottom twenty keys. All three sections have separate outputs for maximum mixing and processing flexibility. All-electronic switching and LED status lights add to make this a great buy for the dollar. Interface is provided for filter, sustain, volume, trigger out and upper/lower gate out, along with external input for direct filtering.

#30AROM $1,499.00
shipping weight exceeds UPS limitations and must be shipped truck or air freight.

Arp Quartet Silky strings, fat brass, pop organ and percussive piano are just a few of the wide range of polyphonic effects you can create on the new Quartet. Four independent sections - strings, brass, piano and organ — can be played separately or in combination. Celeste, honky tonk piano, harpsichord, brass, delayed vibrato, trumpets, trombones, cellos and more can be set up in seconds using the Quartet's unique combination of preset and variable controls with LED status indicators. Sustain footswitch, music rack and audio cable are included for instant operation. Outputs are supplied for high and low signals. This four octave keyboard is built with the quality Arp is famous for, so if you've been waiting for an orchestra at your fingertips with an eye on the dollar, Arp Quartet is the answer!

#30ARQT $780.00
shipping weight 25 lbs.

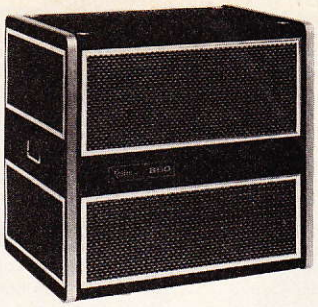
Roland RS-09 A brand new instrument capable of generating polyphonic strings and electronic organ simultaneously from a forty-four note keyboard. The organ section features sliders for 8′, 4′, 2′ and 1′ voice mixing and a dual position tone control. The string section offers 8′ and 4′ octaves with attack time variable. Both sections can be processed through the 2-stage internal ensemble effect and share a release slider. Other front panel features include tuning, tone control, delayed vibrato with variable depth and rate, octave transpose switch and master volume. Stereo outputs along with direct organ output for a Leslie are supplied on the rear panel, plus headphone out, gate out, sustain on/off and external input for ensemble processing.

#30R009 $636.00
shipping weight 16 lbs.

Leslie

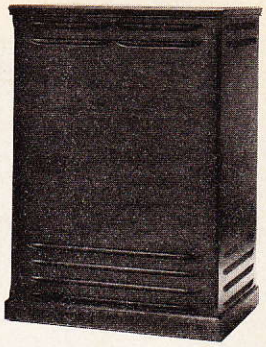
820 The new Model 820 contains a spinning rotor that projects sound-in-motion on a horizontal plane in a 360 degree circle. Rotor can be operated in three different positions: Fast (Tremolo); Slow (Chorale); or Off. Heart of the system is a 12-inch speaker with a 4-pound Alnico magnet and a 4-inch high-temperature voice coil. The 820 is designed for easy portability and comes complete with a high-grade luggage type covering, recessed handles and wheels. All components are ruggedized for shock and vibration. Includes preamp and cable.

#30LE820 **$622.00**



860 The new Model 860 features two spinning rotors, bass and treble, and an electronic crossover network with individual bass and treble amplifiers to produce an enormous amount of music-power. The treble rotor contains a high efficiency Atlas driver. The solid-state 2-speed motor control has rapid speed-up and slow-down capability. The 860 also is stackable, allowing you to build a "tower of power." A radically new chamber design reduces overall size and weight. Complete with high-grade luggage type covering, recessed handles, and ruggedized electronics. Includes preamp and cable.

#30LE860 **$868.00**



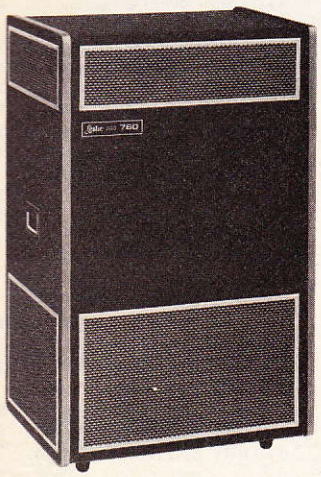
147 Originally designed for church and home use, the 147 has instead become the most widely used Leslie on the professional scene. Power output is 40 watts RMS with the highs produced by a spinning horn rotor and the low frequencies coming from the bass rotor. The rotors can be operated in either fast (tremolo) or slow (chorale). The 147 is finished in beautiful walnut. Includes preamp and cable.

#30LE147 **$725.00**

Because of the 147's furniture-style exterior, we recommend our accessory padded cover.

#30MA47C **$25.00**

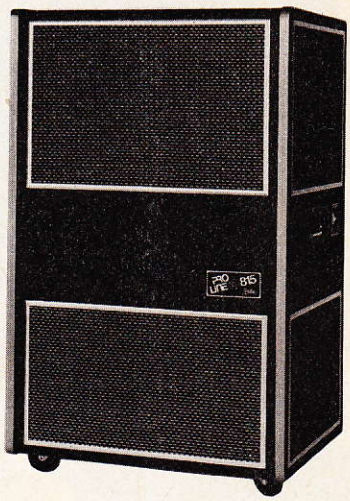
shipping weight 5 lbs.



760 The Model 760 was designed for full-spectrum sound . . . along with high power output. Single channel inputs are separated into two separate amplifiers that control the high and low frequencies. Each rotor system has its own amplification system, each with its own gain control. The rotors on the Model 760 can be operated in three different positions: Fast (tremolo), Slow (chorale), or Off. This amazing sound system is designed for the musician-on-the-go: ruggedized solid state electronics, black luggage-type vinyl covering, fold-down side handles and casters for easy portability. Includes preamp and cable.

#30LE760 **$816.00**

815 The new Model 815 is a high-performance, two channel speaker system. It features four separate amplifiers which independently power each of its four speaker sections. The Rotary channel has separate amplifiers for the Rotosonic drum and treble horn that produce the world famous Leslie Speaker sound-in-motion. The rotors can be operated at either a Fast or Slow speed, or Off for a straight sound. The Stationary channel has a separate amplifier to drive three matched 6 x 9 speakers for the midrange and treble tones. Another amplifier drives a heavy-duty 15" speaker for the pedal/bass tones and the lowest range of the keyboards. The Stationary channel also may be used to amplify various sound sources, including synthesizer, electric or electronic piano, guitar, wind instruments with pickups and other input through microphones. Individual amplification, and output circuits with special crossover networks, for each of the two channels are included to insure that each tonal range and effect is handled by the loudspeakers and channel most able to provide optimum response. It is covered in a high-grade luggage-type material, the components are

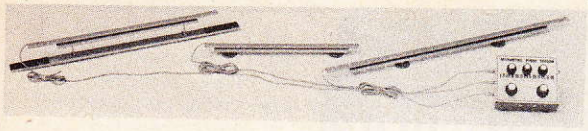


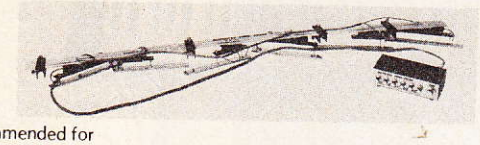
ruggedized for shock and vibration, and it features recessed handles and casters for easy moving. Includes preamp and cable.

#30LE815 **$1,083.00**

All Leslies exceed UPS weight restrictions and must be shipped truck or air freight.

Keyboard Systems





Piano Pickups

Helpinstill Model 110 Recommended for uprights and baby grands, this sensor system clamps securely onto the frame of any piano in 5 minutes. The 3-channel passive mixer offers 3 input levels along with master volume and tone and supplies hi and low ¼" outputs. A fourth extra-long sensor is provided for use with grands.

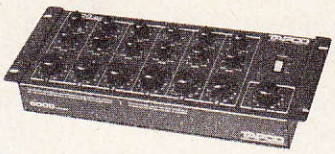
#30HE110 $350.00
shipping weight 8 lbs.

Also available: **Helpinstill Model 75** Mounts easily on any upright piano. Three sensors attach magnetically to the harp and are connected to a passive mixer with master volume and tone controls.

#30HE75 $225.00
shipping weight 5 lbs.

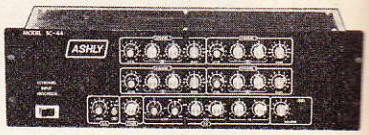
Helpinstill Model 175 This deluxe 6-channel system has one pickup per channel and is designed specifically for concert grand pianos. Used by most touring acts on the finest of pianos, the 175's sensors clamp securely to the piano frame and come with a passive mixer and carrying case. Makes amplification a breeze under the toughest conditions and features a limited lifetime warranty.

#30HE175 $750.00
shipping weight 10 lbs.



Tapco 6000 The 6000 is Tapco's least expensive mixer and offers the basics for keyboard mixing. Six input channels each offer treble, bass and volume controls. Master output volume control feeds a fixed output and adjustable level output with trim pot. Featuring Tapco Autopad circuitry throughout, the 6000 is rackmountable.

#60TA60 $174.00
shipping weight 8 lbs.



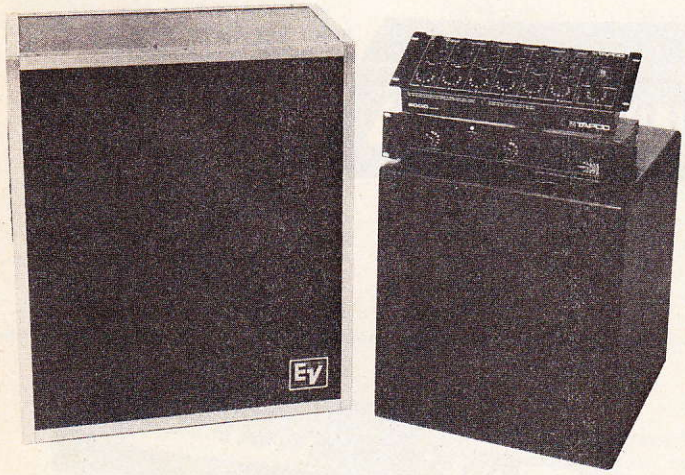
Ashly SC-44 The Ashly SC-44 keyboard Input Processor may be the answer to your keyboard mixing problems. Each of 4 input channels offers input level, low shelving at 300 Hz, high shelving at 3k Hz (± 15 dB), gain control and effects loop. Output levels (mono) are supplied for stage and PA submasters and master gain for both with peak LED. The stage send is processed through a 3-band tunable filter, ± 15 dB at 30 Hz to 300 Hz, 160 Hz to 8 k Hz and 750 Hz to 8k. The PA send can be pre or post EQ at the touch of a button. The SC-44 is rackmountable, too!

#30AS44 $449.00
shipping weight 12 lbs.

Custom Keyboard Amplification

Keyboard System I

$995.00



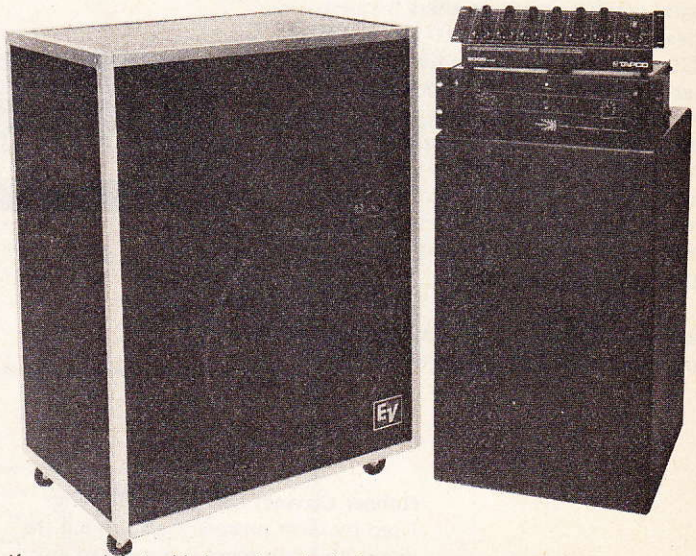
Our basic system combines a Tapco 6000 mixer, Biamp TC-60 power amp and an Electro-Voice S 15-3 cabinet to handle a full range of keyboard sounds. The mixer offers dual inputs and treble, bass and volume controls for each of 6 input channels. The master output goes to the TC-60 bridged mono to deliver a total of 120 watts of clean power. The S 15-3 is a three-way system composed of an EVM 15B, a vented midrange driver and a ST350A high frequency tweeter with passive crossovers at 600 Hz and 4,000 Hz. The cabinet is made from ¾" plywood with aluminum edging, steel grill, and handles. Power handling capability is 100 watts with cabinet dimensions measuring only 29" x 24 3/8" x 13 13/16". System comes complete with cable pack.

System Breakdown

#60TA60 Tapco 6000	**$249.00**
#60BI60 Biamp TC-60	**$445.00**
#60ELS53 Electro-Voice S15-3	**$750.00**
Total Regular Price	**$1,444.00**

Keyboard System II

$1,217.00

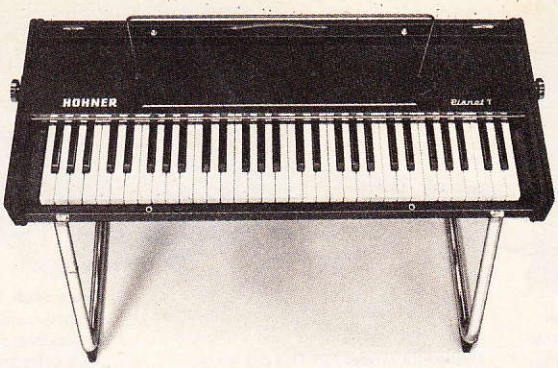


If you need that added punch and a little more OOMPH, try a larger system on for size. Once again the Tapco 6000 offers dual inputs, volume and treble/bass EQ on 6 input channels. The Biamp TC-120 is bridged-mono into 8 ohms for a full undistorted 225 watts of power. EV's new S 18-3 three-way cabinet features the EVM 18B woofer for smooth response down to 40 Hz, a vented midrange driver and a ST350A tweeter, crossing over at 600 and 4,000 Hz. The ¾" plywood cabinet is covered with vinyl vinyl with aluminum trim and equipped with handles and wheels. Dimensions are 35" x 28" x 19 3/8". System response is 40 Hz to 16 K Hz and can handle 200 watts. Cable package included.

System Breakdown

#60TA60 Tapco 6000	**$249.00**
#60BI120 Biamp TC-120	**$565.00**
#60ELS83 Electro-Voice S18-3	**$925.00**
Total Regular Price	**$1,739.00**

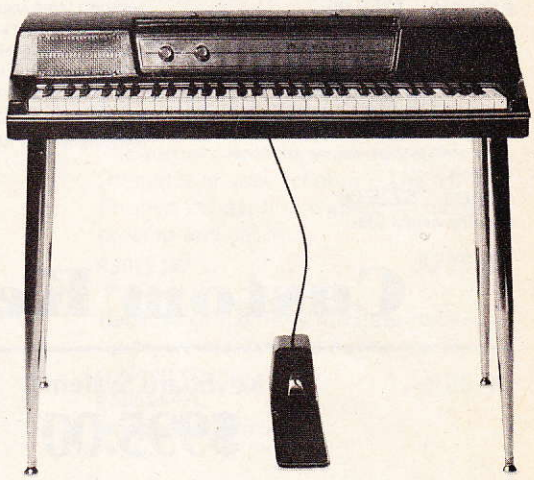
Keyboards



Hohner Pianet The perfect portable keyboard for a basic electric piano sound at the right price. The 5 octave keyboard has a very solid feel and quick response and makes for an excellent keyboard when you're sitting in a hotel and your equipment is on-stage or buried in the depths of a van! Made by the manufacturers of the famous Clavinet, this instrument uses mechanical action to strike tuned needs for the mellow electric piano sound.

#30HOPI $439.00

shipping weight 38 lbs.



Wurlitzer 200 A long time veteran of the stage, studio, school and home, this compact portable unit has a 5 octave dynamic keyboard using piano type action striking tuned metal reeds. The 200 comes with self-contained practice amp and speakers, jacks for headphone and pre-amp outputs, vibrato, screw-on legs and music rack and sustain pedal. Built by a leading piano manufacturer.

#30WU20 $599.00

shipping weight exceeds UPS limitations and must be shipped truck or air freight.

Roland MP-600 This electronic instrument can create and mix three separate polyphonic sounds: soft piano, bright piano and clavichord. A front panel 6-band graphic equalizer alters frequencies ± 12 dB at 100 Hz, 300 Hz, 600 Hz, 1.2k, 2.5k and 5k. Decay time is variable and a jack is provided for a corresponding damper-type momentary contact switch. The keyboard has 64 notes with weighted action simulating true piano response. The unit can be tuned to other instruments and features main and headphone output jacks.

#30RO60 $956.00

shipping weight exceeds UPS limitations and must be shipped truck or air freight.

Hohner Clavinet D-6 The Real thing! Used by most professionals around the world, this intrument is a modern day descendant of the clavichord and features a 5 octave keyboard with dynamic response using real strings and electro-mechanical action. Several tone switches can be combined to create sounds identical to those on the biggest hit records. Comes with built-in mute, screw-on legs and latching lid with leg compartment.

#30HOD6 $792.00

shipping weight exceeds UPS limitations and must be shipped truck or air freight.

Special Products

360 Systems/Oberheim Guitar Synthesizer This sytem uses the 360 Slavedriver to change your guitar's signal to information that will control the Oberheim Synthesizer Expander Module (SEM). A small pickup mounts near the bridge of most solid body guitars, sending information to the micro-processor in the Slavedriver. The 360 puts out 4 signals to be interfaced with the SEM: (1) Control voltage to guide the pitch of the VCOs; (2) Envelope voltage telling the VCA how loud you play; (3) Trigger to initiate envelope firing; and (4) Amplified guitar strings for direct filtering. The expander module is a complete synthesizer voice with 2 full range, synchable VCOs, a multi-mode filter (low pass, high pass, band pass and notch filter), 2 ADS envelope generators, a VCA and assignable LFO. The module offers total interface capabilities and can be purchased separately to expand many existing 1 volt per octave systems. 360 performance features include a 5-position octave switch, footswitchable preset interval transposing (5th, octave, etc.) and sustain footswitch jack. As shown with Anvil flight case:

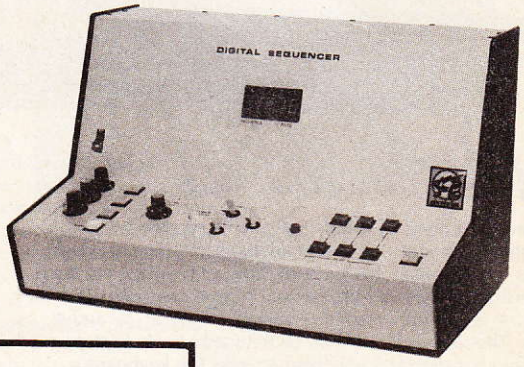
#30TSOB $1,349.00

shipping weight 32 lbs.

Please call or write for additional information and individual prices.

Oberheim DS-2A A digital sequencer capable of being interfaced with Moog, Arp, or other Oberheim equipment. The unit features 3 forty-eight event memory banks which can be assigned in various combinations during record and playback. This provides for a total possible sequence length of 144 events. Rhythmic and melodic aspects are recorded directly from the synthesizer's CV out and gate/trigger out and can be replayed at up to 16 times faster or slower than load tempo. Note duration can be from 1/20 of a second to 8 seconds. In addition to original pitch level, 3 separate transpose intervals can be preset and recalled and/or changed during playback. Digital readout displays sequence number and note number at all times. Record and playback can also be accomplished one note at a time for insured accuracy. A valuable accessory for any complete synthesizer system! Call or write for our low discount price.

#300BDS



Moog Taurus Bass We can't give you that extra hand you sometimes need, but we do have the next best thing! Moog's Taurus pedals offer 1 octave of organ type bass pedals which controls a complete 2 oscillator synthesizer voice. Three factory presets offset the user preset panel which has linear sliders for most functions. Easy access foot controls include volume, filter cut-off, glide on-off, decay on-off and one octave up. The unit can be tuned over a 5 octave range for those extra sounds you need.

#30MOTB $699.00

shipping weight 48 lbs.