

PROFESSIONAL AUDIO
RECORDER/REPRODUCERS

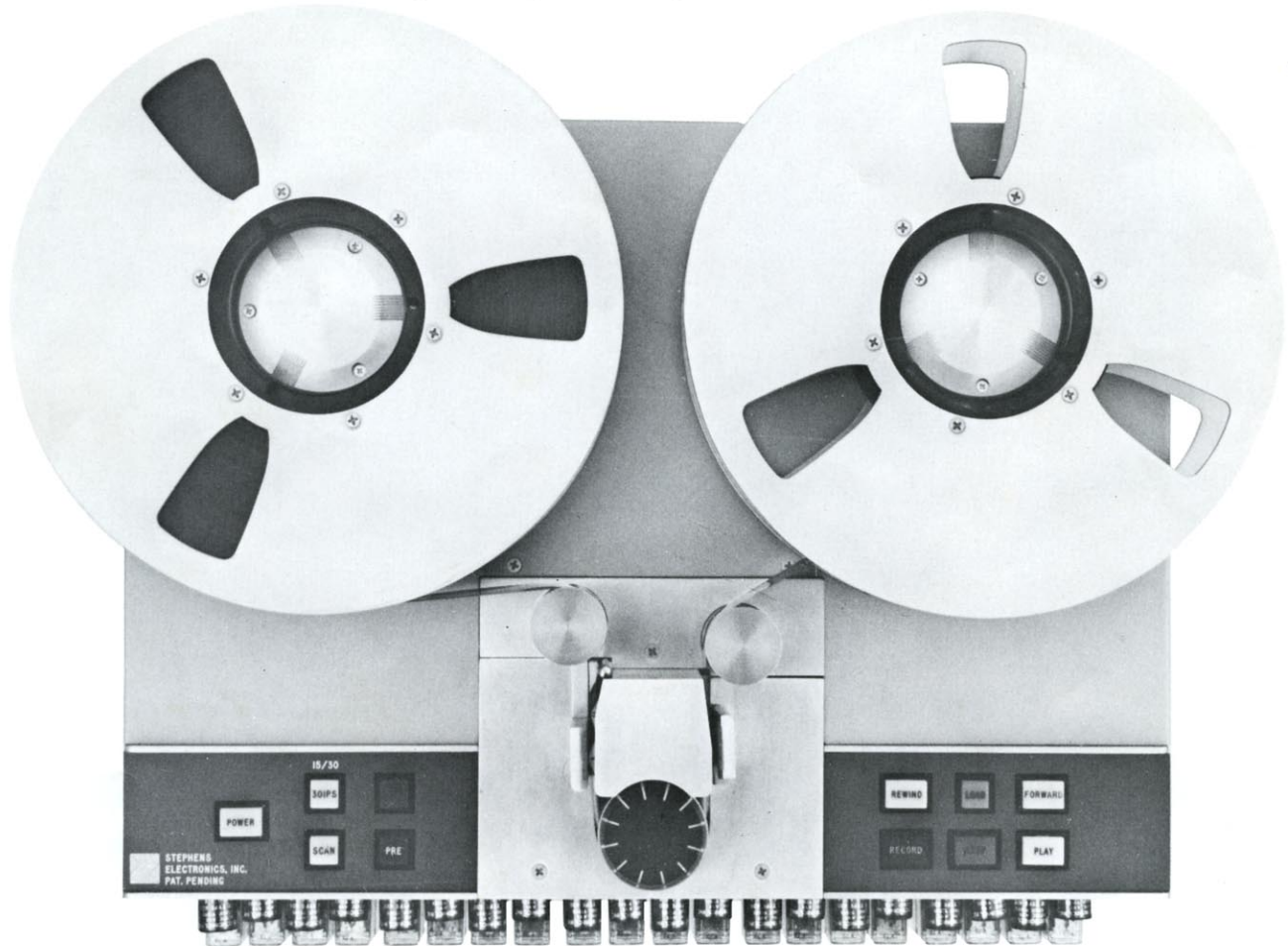


STEPHENS
ELECTRONICS, INC

3513 Pacific Ave., Burbank, Calif. 91505 Phone (213) 842-5116

ABOUT STEPHENS EQUIPMENT

Stephens recorder/reproducers are designed and built to uncompromising standards. The key to Stephens' top performance at competitive prices is our no-nonsense approach. We appreciate the unique requirements of audio professionals, and audio pros will appreciate what we have to offer. Sound interesting? Hearing is believing!



THE TRANSPORT

Tape Handling We know how delicate and valuable your master tape really is. We also know that you need fast, precise yet gentle motion control. That's why our transports are built with servo-operated supply and takeup motors and with full-logic solid state motion sensing.

Constant tape tension is just one advantage of our servo-operated motors. The usual capstan and pressure rollers have been eliminated, and with them went a major source of flutter and oxide wear. Of course there's a lot less cleaning, lubrication and adjustment with this setup, so your maintenance costs come way down. In fact, the only tape motion adjustments you may ever need can be completed in minutes with just two trim pots.

Tape Speeds Standard 15ips and 30ips speeds are push-button selectable. Record/play equalization switches automatically to conform to the speed selected. And a special SCAN speed of 60ips can really save time when you're searching for a cue.

There are many times when you need a little more flexibility in tape speed. So we provide a VSO (variable speed oscillator) as standard equipment. It has a digital logging scale and a vernier dial so you can vary the speed precisely from 10ips to 80ips. The VSO is ideal for pitch changes, special effects or retiming a track. And, speaking of timing, the VSO is equipped with a meter that facilitates calibration of the three

fixed transport speeds. The best thing about our VSO is that its compact remote packaging enables it to be used right at the mixing console.

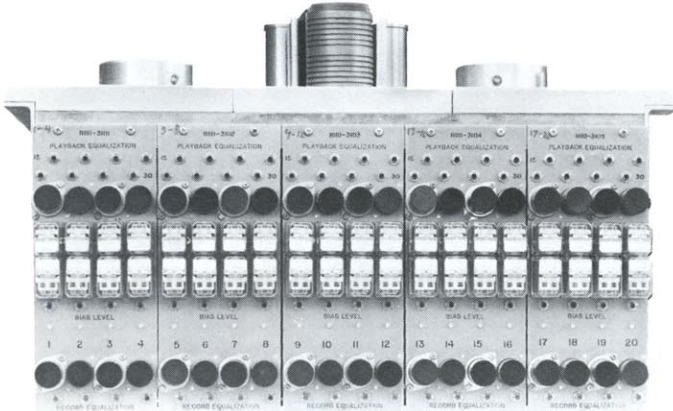
Reel Sizes The Model 103 transport accommodates NAB hubs and reels to 10 1/2" diameter. If you use longer tapes, our Model 104 accepts up to 14" reels. Different size supply and takeup reels may be interchanged freely because the self-adjusting control electronics guarantee proper tape tension at all times.

Tape Formats A wide variety of standard tape widths and track configurations are available, from 4-track/1/2" up to 24-track/2". And Stephens offers some special formats, too. Conversion from one format to another is easy; remove just three screws to unplug a head assembly, and one screw to change the tape guides. The tension automatically conforms to the tape width when the new head is plugged in. It's simple and it works well. Extensive research and testing have led to a design that virtually eliminates problems such as skewing and slipping.

Head Alignment The heart of the transport is a very rigid, precision-machined top plate. Head assemblies are also machined to extremely close tolerances, and every transport is carefully aligned at the factory. The resulting tape-to-head alignment is so constant that further adjustments are unnecessary. So you can finally forget about azimuth, zenith, etc. and all the time it used to take to get them right.

THE ELECTRONICS

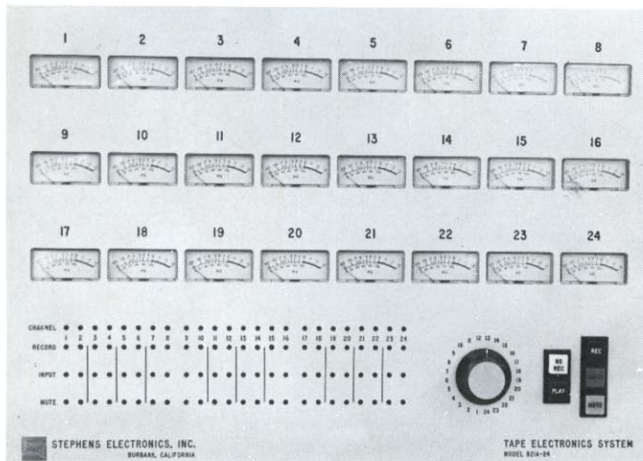
Audio Quality The real proof of performance comes when you listen to a Stephens machine. Wide output headroom won't cramp your program's dynamic range, but the transformerless design really cuts distortion down to size. And the frequency response is really flat, $\pm 2\text{dB}$ from 40Hz to 22kHz at 30ips ($\pm 1\text{dB}$, 50Hz-20kHz). So what you put in, you get back out. And after all, that's the whole idea, isn't it?



811D electronics on 24-track, 103 transport

Operator-Oriented Design Stephens' complete SYNC system simplifies timing problems and makes overdubbing effortless. In sync mode, all input switching is automatically completed at the instant the Record button is punched. This leaves the engineer free to concentrate on his creative work.

We try to make that creative work easier by offering real flexibility of operation. Individual channel outputs may be preset to mute when recording. Or you may choose to mute a channel in all modes. Another presettable function switches a channel output between two sources when the machine is punched in and out of record mode.



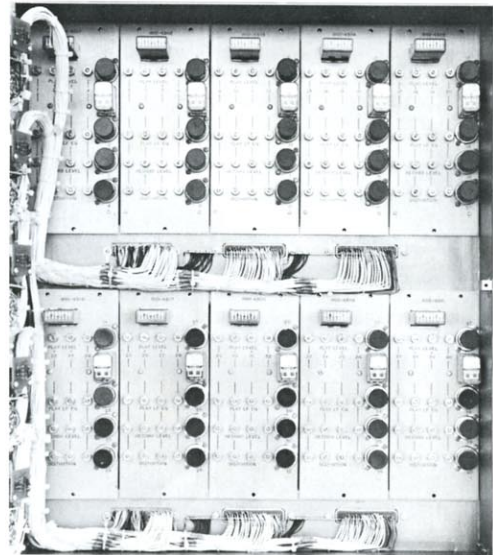
821A 24-track sync panel

While we're on the subject of flexibility, the 821A electronics now available for 24-track machines make single-handed control a reality. By multiplexing the control commands to each channel, the entire sync panel is set up with just 5 push-buttons and one rotary switch. A full complement of LED's display the status of each channel. Our 811D electronics are pretty easy to use, and provide virtually the same functions as the 821A system. But each channel is set by a single rotary switch, and a pair of ready-record lights indicates the status. With both 821A and 811D systems, every channel has an VU meter for accurate readings of input, output and alignment levels.

Stephens knows that in most studios reaching over to operate the transport can be distracting, and we don't want

you to miss a cue. So we offer an optional remote control panel that plugs into the rear of our transports with no special installation. Even better, our remote panels don't clutter your working area. The 821A 24-track remote box, including all channel mode and motion controls, is the smallest anywhere. We don't like to miss a cue, either.

Reliability and Easy Maintenance Stephens knows that the best transport in the business would be wasted without the right electronics. So we spent a lot of time developing some of the quietest and cleanest amplifiers you can find. These solid state units are exceptionally stable, so once you align a machine, it stays aligned! Our amplifiers are reliable, too, although failures may occur. So we mounted each amplifier in a plug-in capsule that can be replaced in seconds. We know how important those seconds can be when your client is waiting.



811D electronics inside 40-track sync panel

Another thing. We mounted all the trimmers, equalization, and the rest of the 811D audio circuitry in neat 4-channel modules. All modules are plug-in replaceable, which goes a long way toward making maintenance less of a chore. You can easily expand your machine to handle a greater number of tracks at any time, and you don't have to pay for the circuitry until you need it. Just let us know when you buy your machine so we can supply the appropriate size sync panel and interconnecting cable harness.



Front view of 40-track sync panel

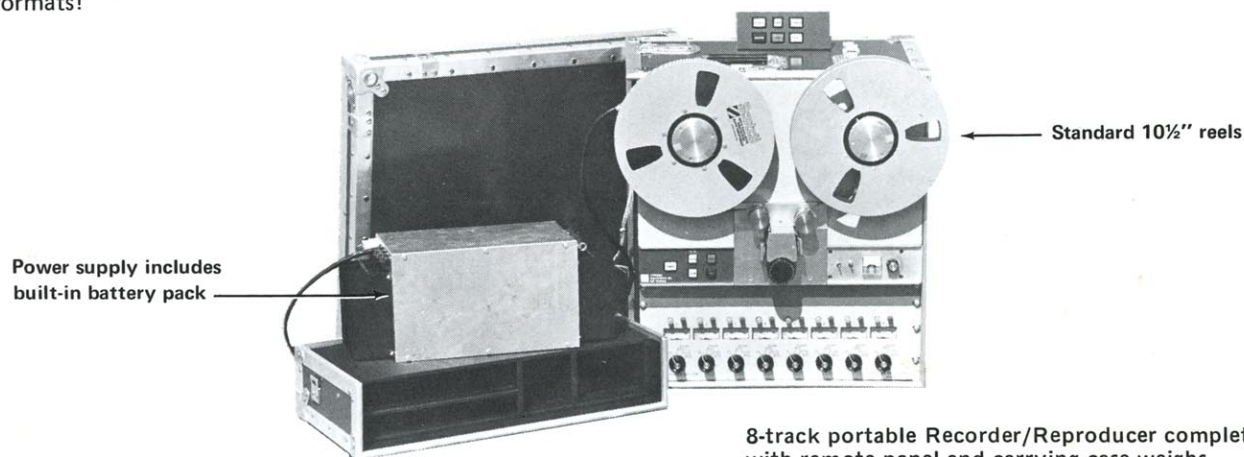
SPECIAL STEPHENS FEATURES

Multi-Track Recording Was Never Easier

Though some engineers still think of it as a mixed blessing, multi-track recording has become an essential part of modern record making. And it is becoming increasingly important in broadcasting and film making, too. Because it allows an engineer to concentrate on live recording and to make mixing judgements later, multi-track helps eliminate a lot of headaches. Stephens knows how valuable those extra tracks can be, and we've bent over backwards so you won't have to. We are the only manufacturer with professional 32-track and 40-track formats!

Location Recording At Its Best

Light weight and low power consumption characterize Stephens machines. The complete 24-track machine weighs just 54 pounds (unmounted). We have an optional portable case and a battery pack that powers the transport and electronics for a full 3 1/2 hours of recording. Now you can bring quality multi-track recording anywhere you want it — without a moving van. Portable operation was never easier.



8-track portable Recorder/Reproducer complete with remote panel and carrying case weighs just 59 lbs.

SPECIFICATIONS

MECHANICAL

Tape Speeds	15ips and 30ips, phase locked. High speed scan, 60ips. Variable, 10ips to 80ips, non-locked.
Reel Sizes	Model 103 accepts NAB hub, 10 1/2" reel (standard). Model 104 accepts reels to 14" (on request).
Flutter	.03% average, .05% worst case.
Start Time	Less than 500 milliseconds to stable motion in record or play mode.
Stop Time	1 second from play or record mode.
Rewind Time	Approximately 60 seconds for 2400 feet.

ELECTRICAL (All Models)

Frequency Response	
@ 15ips	± 1dB, 40Hz-15kHz; ± 2dB, 30Hz-18kHz.
@ 30ips	± 1dB, 50Hz-20kHz; ± 2dB, 40Hz-22kHz.
Input Impedance & Level	10,000-ohms, unbalanced. From -10dBm to +8dBm from a 600-ohm source.
Output Impedance & Level	Designed to work into a load greater than or equal to 600-ohms, +24dBm max.

Specifications for 4-track, 8-track, and 32-track machines are similar to those listed, and are available on request.

*Measured using 206/207 tape, in record mode with no modulation and linearization circuit disabled. (Referenced to 3% THD).

Signal/Noise Ratio*	16-track	24-track	40-track
Tape Stopped	74dB	71dB	70dB
@ 15ips	66dB	63dB	62dB
@ 30ips	69dB	66dB	65dB
Erase Frequency	200kHz	200kHz	130kHz
Bias Frequency	200kHz	200kHz	260kHz
Power Consumption (110/220 VAC, 50/60Hz)	100 Watts	125 Watts	175 Watts
Transport (model)	(103)	(104)	(104)
Height	12"	12"	12"
Width	19"	26"	26"
Depth	16"	19"	19"
Weight	35 lbs.	45 lbs.	53 lbs.
Sync Panel Size			
Height	10 1/2"	12 1/4"	21 1/16"
Width	19"	19"	19"
Depth	5"	5"	5"
Weight	12 lbs.	15 lbs.	28 lbs.
Overall Size In Cabinet			
Height	52"	54"	64"
Weight	102 lbs.	120 lbs.	136 lbs.

Warranty 1 year

Options

- Battery Pack
- 60Hz Crystal Oscillator, ± 15ppm, accuracy.
- Sync Lock for vertical sync pulse or 60Hz on tape.
- Table-top cabinet
- Portable carrying case

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