



MODEL 3200 RPS STEREO RECORD/PLAYBACK with automatic fast forward and all cue tones.



PHASE LOK III HEAD BRACKET

In the Phase Lok III head bracket height and zenith adjustments are not affected by azimuth adjustment. This assures extremely tight control of stereo phasing.

FEATURES

- A Professional Quality Monaural Or Stereo Cart Machine
- Direct Drive Motor, Air Damped Solenoid
- Automatic or Manual Fast Forward Option

- Phase Lok III Head Bracket
- Low Voltage Solenoid Switching
- Long Life Nortronics Duracore® Heads

GENERAL DESCRIPTION

Series 3000 machines have all the standard features: a direct-drive hysteresis synchronous motor, an air damped solenoid with excellent reserve capability, and a ½-inch thick machined aluminum deck. In addition, these machines are loaded with Spotmaster exclusives: the Phase Lok III head bracket; low voltage solenoid switching; advanced integrated circuit/solid-state design with exceptionally wide dynamic operating ranges; long life Nortronics Duracore® heads; and an outstanding set of performance specifications.

PHASE LOK III HEAD BRACKET — Phase Lok III by Spotmaster improves stereo phase performance. This unique head bracket has an azimuth adjustment which is totally independent of height and zenith and offers the most precise head positioning possible. All stereo playback models are also equipped with a dummy head to insure correct stereo tracking.

SOLENOID CONTROL CIRCUIT — A key feature of the Spotmaster design is the solenoid control circuit. This is a low-voltage, current regulated source which is applied through a solid-state switch. With this circuit, solenoid operation is not affected by ac line variations, heat dissipation is reduced, and the combination of low voltage and solid-state switching significantly enhances reliability. A further benefit is the elimination of a potential source of noise that is present with high level ac switching.

The overall reliability inherent in this design has been demonstrated in life cycle testing programs which have, on a number of occasions, cycled this machine through two million operations without failure.

CARTRIDGE GUIDANCE SYSTEM — The cartridge guidance system provides very precise positioning. The cartridge is directed down into the head by a tapered side guide and locked in place by a beryllium clamp which insures positive locking regardless of variations in cartridge thickness. The tensile strength of this clamp is exceptional and it will retain this strength throughout many years of use.

RECORD CIRCUITRY — The record circuitry has balanced inputs followed by high performance IC operational amplifiers. These input circuits have extremely wide dynamic operating ranges which allow them to cleanly handle a greater range of signals than any competitive machine. This high level of signal handling ability, which is inherent throughout the design, contributes significantly to the high quality of reproduction which is characteristic of the 3000 Series.

PLAYBACK CIRCUIT — The playback amplifier consists of wideband IC operational amplifiers, FET muting circuits, and output amplifiers with wide dynamic ranges. The amplifiers have an exceptionally wide adjustment range for compensating for head wear, a feature which prolongs useful head life. The solid-state output amplifiers will deliver output levels of up to +20 dBm before clipping, thereby minimizing the potential for distortion with high level signals.



*MODEL 3100P



*MODEL 3200RP



*MODEL 3300P

*Shown with all options

AVAILABLE MODELS

Series 3000 is a family of tape cartridge machines with the industry's widest choice of models and options. This series offers the Broadcaster an exceptional degree of flexibility in customizing a record/playback system for a particular studio.

Model 3100 Slim Line is a space saving design for playback of A size cartridges. It is available in mono and stereo. 3100's are only 5 $\frac{7}{8}$ " wide and three units can mount side-by-side in 19" of rack space.

Model 3200 is a full feature machine available with complete record/playback capability for A and B cartridges, yet it is only 8 $\frac{3}{4}$ " wide. Two machines can fit into 19-inches of rack space. It is available in mono and stereo, record/playback and playback only.

Model 3300 is available to handle A, B and C-size cartridges. It is available in record/playback and playback only for both mono and stereo.

AVAILABLE OPTIONS

Secondary and Tertiary Cue Tones — Options include front panel indicator switches, oscillators (record models) and detectors for 150 Hz and 8 kHz tones; contact closures are provided for external control.

Manual Fast Forward — Spring loaded front panel switch, when pressed advances the tape at 3x normal speed to next cue tone.

Automatic/Manual Fast Forward (includes secondary and tertiary cue tones) — In automatic operation machine detects end-of-message (150 Hz) cue tone and automatically advances at 3x normal speed to next cue tone (audio is muted during advance). Manual Operation, as described above, is included in this option.

Remote Control Unit — Five models available: offers duplication of essential front panel functions.

Other Options — Microphone input; 220V 50 Hz power; IEC, CCIR equalization, rack mounting; 3 $\frac{3}{4}$ ips tape speed.

SPECIFICATIONS

Tape Speed:

7.5 ips (19.05 cm/s.)

Timing Accuracy (at 7.5 ips):

0.1%

Fast-Forward Tape Speed (optional):

22.5 ips (57 cm/s.)

Tape Start/Stop Time:

0.1 second maximum.

Wow and Flutter:

0.15% peak weighted

0.2% RMS unweighted.

Noise (Reproducer):

Monophonic: 62 dB or better below reference of 400 Hz at 3% THD;

54 dB below 160 n Wb/m at 1 kHz.

Stereophonic: 60 dB or better below reference of 400 Hz at 3% THD;

52 dB below 160 n Wb/m at 1 kHz.

Distortion:

2% or less record to playback at 160 n Wb/m at 1 kHz.

Equalization:

NAB, IEC, CCIR as specified.

Frequency Response:

± 2 dB from 50 Hz to 15 kHz exclusive of head contour effect.

Crosstalk (magnetic head limited):

Cue channel to program channel, monophonic

150 Hz:—50 dB or better

1000 Hz:—55 dB or better

8000 Hz:—50 dB or better

Stereo, crosstalk between program channels; better than 50 dB, 50 Hz to 15 kHz.

Input Impedance (Recorder):

Microphone (optional): 150 ohms (transformer) balanced floating.

Line: 50 k ohms (transformer) balanced floating.

Input Levels:

Microphone (optional): -70 to -24 dBm

Line: -24 to +20 dBm (50 mV to 7.7 V).

Audio Output:

Maximum adjustable level +8 dBm from 160 n Wb/m at 1 kHz; 600 ohms (transformer) balanced.

Peak Output Level:

+20 dBm before clipping.

Cue Signals:

Relay contact closure for external control (150 Hz, 8 kHz). External cue/input/output available at remote control for other control functions.

Ambient Operating Temperature:

0° to 55° C (32° to 132° F).

Power Requirements:

105 to 125V/210 to 230V; 50 or 60 Hz. 45 to 50 W maximum.

Mounting:

Desk top standard. Adaptors for rack mounting optional.

External Connectors:

Mating plugs furnished.

Dimensions:

3100: 5 $\frac{1}{4}$ " H, 5 $\frac{7}{8}$ " W, 15 $\frac{1}{2}$ " D
(13.3 \times 14.9 \times 39.4 cm)

3200: 5 $\frac{1}{4}$ " H, 8 $\frac{3}{4}$ " W, 15 $\frac{1}{2}$ " D
(13.3 \times 22 \times 39.4 cm)

3300: 5 $\frac{1}{4}$ " H, 11 $\frac{3}{4}$ " W, 15 $\frac{1}{2}$ " D
(13.3 \times 29.8 \times 39.4 cm)

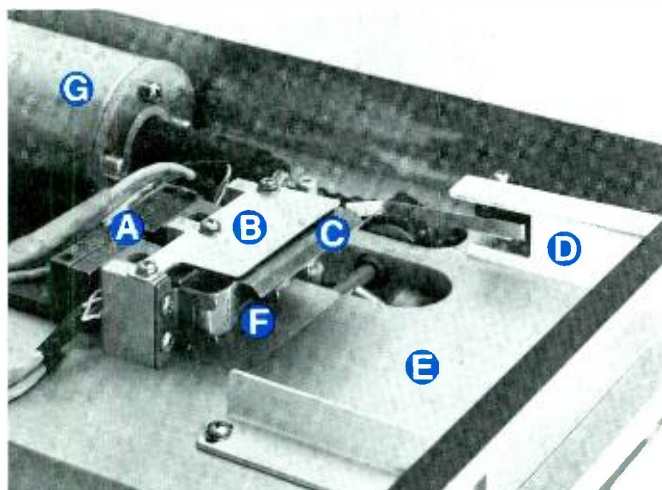
(Add $\frac{3}{8}$ " to height for rubber feet.)

Weight (packed):

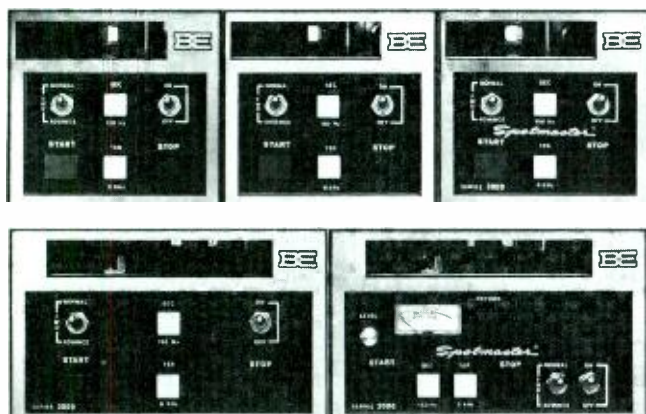
3100: 28 lbs. (12.7 kg)

3200: 33 lbs. (15.0 kg)

3300: 37 lbs. (16.8 kg).



THE TAPE TRANSPORT



RACK MOUNT CONFIGURATIONS

The Spotmaster design puts a lot of capability into a minimum amount of space. The arrangements above, which occupy 10½ inches of vertical rack space, provide playback capability for five A size cartridges and two B size cartridges. A record capability is provided in the Model 3200 with the meter. These units can be either stereo or mono.



REAR PANEL

This is the rear view of a Model 3200RPS (stereo, record/playback). The mating connectors and allen wrenches for head adjustments are furnished with all units and the headphone monitor jack (J6) is standard with all units.

HIGHLIGHTS OF THE SERIES 3000 TAPE TRANSPORT — includes **A** Phase Lok III Head Bracket; **B** mu-metal magnetic shield; **C** high-tensile beryllium clamp for locking the cartridge in place; **D** tapered side guide which directs the cartridge down into the head; **E** a precision one-half inch thick aluminum deck; **F** under-the-head magnetic shielding provided by a mu-metal plate which is recessed into the deck for optimum cartridge seating; and **G** a large air damped solenoid with exceptionally reliable chain linkage. Not visible in the picture is the plate on the underside of the deck which provides additional head shielding.

ORDERING INFORMATION

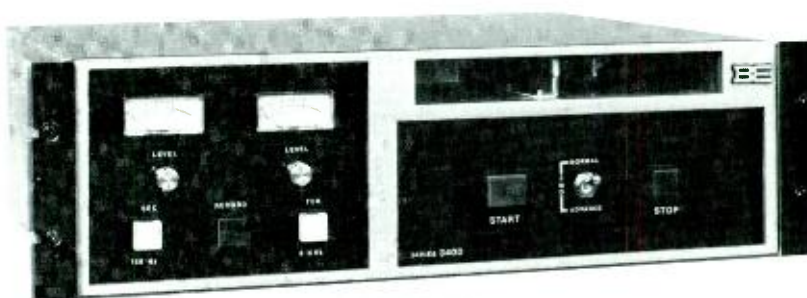
MODEL	STOCK NO.	DESCRIPTION
3100P	906-3100	Mono, Playback Only, A Size Cartridges
3100PS	906-3101	Stereo, Playback Only, A Size Cartridges
3200P	906-3200	Mono, Playback Only, A & B Size Cartridges
3200RP	906-3201	Mono, Record/Playback, A & B Size Cartridges
3200PS	906-3202	Stereo, Playback Only, A & B Size Cartridges
3200RPS	906-3203	Stereo, Record/Playback, A & B Size Cartridges
3200RP/DL	906-3204	Mono, Delay Programmer, A & B Size Cartridges
3300P	906-3300	Mono, Playback Only, A, B, & C Size Cartridges
3300RP	906-3301	Mono, Record/Playback, A, B, & C Size Cartridges
3300PS	906-3302	Stereo, Playback Only, A, B, & C Size Cartridges
3300RPS	906-3303	Stereo, Record/Playback, A, B, & C Size Cartridges
3300RP/DL	906-3304	Mono, Delay Programmer, A, B & C Size Cartridges

FACTORY INSTALLED OPTIONS

906-3000	Q Trip I & II (150 Hz and 8 kHz), Playback Only Models
906-3001	Q Trip I & II (150 Hz and 8 kHz), Record/Playback Models
906-3002	Adjustment of Equalization to IEC/CCIR Specifications
906-3003	Microphone Input Option, Mono Record/Playback Models
906-3004	Microphone Input Option, Stereo Record/Playback Models
906-3005	Manual Fast Forward, All Models, without Q Trip I & II
906-3006	Automatic and Manual Fast Forward, Playback Only Models with Q Trip I and II (150 Hz and 8 kHz)
906-3007	Automatic and Manual Fast Forward, Record/Playback Models with Q Trip I and II (150 Hz and 8 kHz)
906-3008	Additional cost for 117 VAC/50 Hz; or 220 VAC/240 VAC/50 Hz
906-3009	Additional cost for alternate 3.75 IPS tape speed

ACCESSORIES

906-3013	Rack Mount Shelf for EIA 19" Rack
471-0098	Top Cover for 906-3013 Shelf
503-0022	Rack Shelf Filler Panel, ½ Rack
503-0023	Rack Shelf Filler Panel, ½ Rack
919-1504	Extender, P.C. Boards
970-0003	Transistor/IC kit for 3200P/RP
906-3016	3000 Remote Control Panel, START for 5 Units
906-3019	3000 Remote Control Panel, Single Record/Playback Model
906-3020	Remote Control Panel, Single Playback (with cue tones)
906-3021	Remote Control Panel, Single Playback (without cue tones)
906-3028	Remote Control Panel with start/stop and fast forward switches for 5 Series 3000 machines



Model 3400 RPS

FEATURES

- Rack mounts without additional accessories
- Handles A, B and C sized carts
- Same performance specifications as 3000 series carts
- Full range of options available

RACK MOUNTING MODEL — The Model 3400 has all the features of the standard 3000 Series cartridge machine, but is designed into a rack mountable assembly with no shelf or filler panels necessary. The 3400 handles A, B, and C size carts and comes standard as a rack mount unit, for use in any 19-inch rack. It can also be used for desk top operation when equipped with an optional cover.

AVAILABLE MODELS — The 3400 is available in both monaural and stereo models, and in record and record/playback configurations. All of the series 3000 options are available for the 3400 series.

PHASE LOK III HEAD BRACKET — Phase Lok III by Spotmaster improves stereo phase performance. This unique head bracket has an azimuth adjustment which is totally independent of height and zenith and offers the most precise head positioning possible. All stereo playback models are also equipped with a dummy head to insure correct stereo tracking.

SOLENOID CONTROL CIRCUIT — A key feature of the Spotmaster design is the solenoid control circuit. This is a low-voltage, current regulated source which is applied through a solid-state switch. With this circuit, solenoid operation is not affected by ac line variations, heat dissipation is reduced, and the combination of low voltage and solid-state switching significantly enhances reliability. A further benefit is the elimination of a potential source of noise that is present with high level ac switching.

CARTRIDGE GUIDANCE SYSTEM — The cartridge guidance system provides very precise positioning. The cartridge is directed down into the head by a tapered side guide and locked in place by a beryllium clamp which insures positive locking regardless of variations in cartridge thickness. The tensile strength of this clamp is exceptional and it will retain this strength throughout many years of use. All three cartridge sizes—A, B, and C—may be used in the 3400.

RECORD CIRCUITRY — The record circuitry has balanced inputs followed by high performance IC operational amplifiers. These input circuits have extremely wide dynamic operating ranges which allow them to cleanly handle a greater range of signals than any competitive machine. This high level of signal handling ability, which is inherent throughout the design, contributes significantly to the high quality of reproduction which is characteristic of the 3000 Series.

PLAYBACK CIRCUIT — The playback amplifier consists of wideband IC operational amplifiers, FET muting circuits, and output amplifiers with wide dynamic range. The amplifiers have an exceptionally wide adjustment range for compensating for head wear, a feature which prolongs useful head life. The solid-state output amplifiers will deliver output levels of up to +20 dBm before clipping, thereby minimizing the potential for distortion with high level signals.

ORDERING INFORMATION

MODEL	STOCK NO.	DESCRIPTION
3400P	906-3400	Mono, Playback only, rack mount
3400PS	906-3401	Stereo, Playback only, rack mount
3400RP	906-3402	Mono, Record/Playback, rack mount
3400RPS	906-3403	Stereo, Record/Playback, rack mount
	906-3413	Cover for desk mounting 3400 machine

NOTE: SEE PAGE 8 FOR SERIES 3000 OPTIONS

SPECIFICATIONS

Identical to the 3000 series specifications on page 7 except:

Dimensions:

5.25" H, 17" W, 15.5" D (13.34 x 43.13 x 39.37 CM)

Weight:

(packed: 42 lbs. (19.0 Kg))