

DOKORDER

model 1120/1122

SERVICE MANUAL

SM. 1001-00

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SECTION

1

TECHNICAL DESCRIPTION AND ADJUSTMENT PROCEDURES



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Note

This Service Manual consists of three sections:

- Section 1: Descriptions of circuitry, operating procedures, and methods of adjustments and maintenance, plus technical data
- Section 2: Exploded views, and parts list
- Section 3: Patterns, schematics and parts lists for printed circuit boards

1. GENERAL DESCRIPTION

The Dokorder Models 1120/1122 accept up to 10-1/2-inch reels. They are decks for professionals and semi-professionals, equipped with three motors, three heads and solenoid-operated controls. Their features include:

1-1 AMPLIFIER CIRCUITRY

1. Facility for mic and line mixing.
2. Facilities for echo recording and sound-on-sound recording.
3. Record/playback peak level indicators built in (to flash on for signal levels of +8dB or higher.)
4. Separate, two-stepped bias and equalizer switches, to be used in different combinations:

Bias Switch	Equalizer Switch	Brand/Type	
NORMAL	NORMAL	Scotch #111, #150 or equivalents	
NORMAL	SPECIAL	_____	
SPECIAL	NORMAL	Scotch #212 or equivalents	
SPECIAL	SPECIAL	Maxell UD-35 or equivalents	

5. Convertibility to the 4-track, 2-channel or to 2-track, 2-channel format by head-block replacement. (Re-adjustments are necessary after format conversion.)

1-2 TAPE TRANSPORT MECHANISM

1. Pause Switch
2. Cue Switch
3. Use of brake mechanism with torque limiter.

Basically, the Models 1120 and 1122 have identical circuitry and transport mechanisms except:

	1120	1122	
Tape speeds	7-1/2", 3-3/4"	15", 7-1/2"	
Head format	4-track, 2-channel	2-track, 2-channel	
Line output	+3dB (PB VR MAX, 0dB Record Tape)	+6dB	

NOTE: When ordering replacement parts, please note that some parts for the 1120 can be compatibly used for the 1122 (and vice versa) but others cannot. On the parts given in this book, compatible parts are not marked at all, while incompatible parts are marked, (☆ means incompatible parts exclusively for the 1120, while ● means incompatible parts exclusively for the 1122.) Any further inquiry should be directed to your nearest Dokorder Service Station.

2.SERVICE DATA

2-1 DOKORDER MODEL 1120

Record/Playback System	4 Track 2 Channel Stereophonic
Tape Width	Standard 1/4 inch tape
Reel Capacity	10-1/2 inch or 7 inch
Motor	Three (One 4/8 pole hysteresis synchronous for capstan, Two 6 pole induction type for reels)
Head	Three (One erase, one record, one playback)
Tape Speed	7-1/2 ips (19 cm/sec) $\pm 1\%$ 3-3/4 ips (9.5 cm/sec) $\pm 1\%$
Wow and Flutter	Playback (RMS) 7-1/2 ips 0.15% 3-3/4 ips 0.18%
Fast Winding Time	120 sec for 7" reel (1800-foot tape, 60Hz) 100 sec for 10-1/2" reel (2500-foot)
Equalization	NAB
Bias Frequency	130 kHz ± 1 kHz
Frequency Response	Overall (by Scotch #212 tape at Bias Special EQ Normal) 7-1/2 ips 30 Hz ~ 20 kHz ± 3 dB 3-3/4 ips 30 Hz ~ 10 kHz ± 3 dB +3 dB ± 1 dB at 7-1/2 ips (700 Hz) +3 dB ± 2 dB at 3-3/4 ips (500 Hz)
Playback Level	Better than 50 dB (1 kHz, Playback) Better than 48 dB (1 kHz, Overall)
Signal to Noise Ratio	Better than 45 dB at 1 kHz
Crosstalk	Better than 40 dB at 1 kHz
Channel Separation	Less than 1.5% at 1 kHz
Distortion	-70 dB 600 ohm (load impedance)
Inputs	Line -20 dB 100 kohm DIN 30 mV (-28.5 dB) 80 kohm
Outputs	Line +3 dB (Playback) 0 dB (Source) 10 kohm DIN +3 dB (Playback) 0 dB (Source) 10 kohm Headphone 2 mW 8 ohm at 0 dB output level
Peak Indicator	Flash on at +8 dB
Circuit Complement	2 IC, 38 Transistors, 62 Diodes
Power Consumption	190 W
Weight	62 lbs
Dimensions	17-3/4" H x 16-7/8" W x 6-3/4" D

Specs are subject to change without notice.

2-2 DOKORDER MODEL 1122

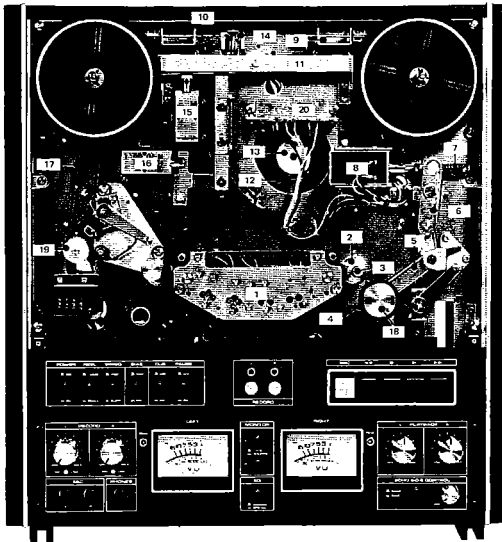
Record/Playback Ssystem	2 Track 2 Channel Stereophonic
Tape Width	Standard 1/4 inch tape
Reel Capacity	10-1/2 inch or 7 inch
Motor	Three (One 4/8 pole hysteresis synchronous for capstan, Two 6 pole induction type for reels)
Head	Three (One erase, one record, one playback)
Tape Speed	15 ips (38 cm/sec) $\pm 1\%$, 7-1/2 ips (19 cm/sec) $\pm 1\%$
Wow and Flutter	Playback (RMS) 15 ips 0.08% 7-1/2 ips 0.12%
Fast Winding Time	120 sec for 7" reel (1800-foot tape, 60Hz) 100 sec for 10-1/2" reel (2500-foot)
Equalization	NAB
Bias Frequency	200 kHz ± 1 kHz
Frequency Response	Overall (by Scotch #212 tape at Bias Special EQ Normal) 15 ips 35 Hz ~ 250 Hz +5dB-3dB, 250 Hz ~ 27 kHz ± 3 dB 7-1/2 ips 30 Hz ~ 22 kHz ± 3 dB
Playback Level	+6 dB ± 1 dB at 15 ips (700 Hz) +6 dB ± 2 dB at 7-1/2 ips (700 Hz)
Signal to Noise Ratio	Better than 50 dB (1 kHz, Playback) Better than 48 dB (1 kHz, Overall)
Crosstalk	Better than 50 dB at 1 kHz
Channel Separation	Better than 40 dB at 1 kHz
Distortion	Less than 1.5% at 1 kHz
Inputs	Mic -70 dB 600 ohm (load impedance) Line -20 dB 100 kohm DIN 30 mV (-28.5 dB) 80 kohm
Outputs	Line +6 dB (Playback) 0 dB (Source) 10 kohm DIN +6 dB (Playback) 0 dB (Source) 10 kohm Headphone 2 mW 8 ohm at 0 dB output level
Peak Indicator	Flash on at +8 dB
Circuit Complement	2 IC, 38 Transistors, 62 Diodes
Power Consumption	190 W
Weight	62 lbs
Dimensions	17-3/4" H X 16-7/8" W X 6-3/4" D

Specs are subject to change without notice.

3. PARTS LOCATION

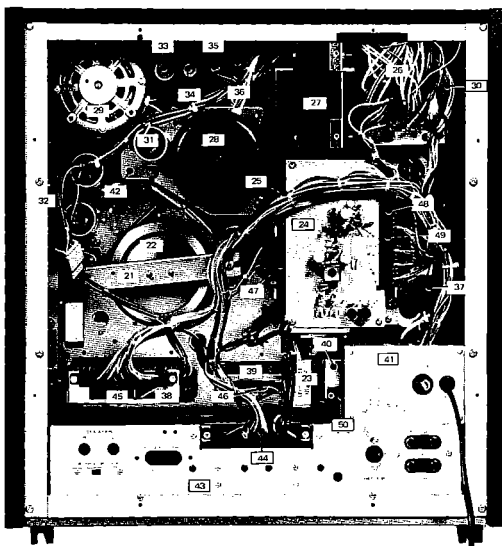
2-1 DOKORDER MODEL 1120

FRONT VIEW



- 1 Head Base Assy
- 2 Bearing, Capstan
- 3 Shaft, Capstan
- 4 Pinch Roller
- 5 Arm, Pinch Roller
- 6 Arm, Pinch Roller Drive
- 7 Spring, Pressure
- 8 Solenoid, Pinch Roller Pressure
- 9 Bracket, Brake
- 10 Spring, Brake Torque Limiter
- 11 Linkage, Brake
- 12 Belt, Capstan Drive
- 13 Pulley, Motor
- 14 Adjuster, Brake Torque
- 15 Solenoid, Brake
- 16 Solenoid, Aux. Brake
- 17 Belt, Counter (Large)
- 18 Dressing Screw, Pinch Roller
- 19 Intermedia Pulley Assy
- 20 Quick Stop Assy

BACK VIEW



- 21 Arm, Flywheel Support
- 22 Flywheel
- 23 Solenoid, Tape Lifter
- 24 PC Board Assy, Bias OSC
- 25 PC Board Assy, Control

- 26 PC Board Assy' AC Terminal
- 27 Power Transformer
- 28 Motor, Capstan
- 29 Motor, Reel (Left)
- 30 Motor, Reel (Right)
- 31 Capacitor 2.8 + 1.0uF, Phase Advancing (Capstan Motor)
- 32 Capacitor 4.0 + 0.5uF, Phase Advancing (Reel Motor)
- 33 Resistor 150 ohm 20W, Wirewound (Take-up)
- 34 Resistor 400 ohm 15W, Wirewound (Holdback 7")
- 35 Resistor 50 ohm 10W, Wirewound (Holdback 10")
- 36 Resistor 1.5K ohm 20W, Wirewound (FF/REW Holdback)
- 37 Belt, Counter (Small)
- 38 Operate Switch Assy
- 39 REC Switch Assy
- 40 6-Station Switch Assy
- 41 Chassis, Power Supply
- 42 Chassis, Motor
- 43 Chassis, Amp.
- 44 Connector 18P(S), Amp.
- 45 Connector 18P(S), Operate SW.
- 46 Connector 10P(S), REC. SW.
- 47 Connector 10P(S), Control P.C.B.
- 48 Connector 18P(S), Bias P.C.B.
- 49 Connector 18P(S), Control P.C.B.
- 50 Connector 22P(S), 6-Station SW.