EV DYNACORD®

DRP 10

High-Quality Reverb Processor

- 499 programs—240 factory programs and 259 user memories
- Eight instrument/user groups with various effect programs for specific applications for unequalled ease of use
- Up to six effects usable simultaneously
- 24-bit processing allows >90 dB signal-to-noise/dynamic range and <0.03% THD
- Universal power supply operates from 90-250 volts, automatically
- Three-year parts-and-labor warranty

SPECIFICATIONS

Conditions:

1. 0 dBu = 0.775 volts rms.
2. 0 dBm = 1 mW into 600 ohms.
3. 120-volt ac line voltage unless otherwise noted.
4. Output levels measured with +4-dBu input at 1,000 Hz, with input level switch in the line position and input control full clockwise.

OVERALL SPECIFICATIONS

Frequency Response (direct):
20-20,000 Hz, +0.5/–1 dB

Frequency Response (effect):
20-20,000 Hz, +0.5/–2 dB

Data Format:
16-bit linear analog to digital and digital to analog; internal 24-bit processing

Total Harmonic Distortion,
Direct:
<0.003%
Effect:
<0.03%

Signal-to-Noise Ratio,
Direct:
>104 dB
Effect:
>90 dB

Crosstalk Attenuation (L/R):
>80 dB

Channel Configuration:
Mono or stereo signals accepted; stereo signal mono summed for stereo reverb/multi-effects output

Front-Panel Controls (see Figure 2):
Input gain control; user application groups (vocal, keys, guitar, bass, drums, brass, strings, special and user); endless rotary encoder with center push-to-enter button; program edit button; store button; MIDI button; two up/down parameter/program select buttons; effects on/off button; power on/off switch

Front-Panel Displays:
10-segment LED input-signal VU meter, switchable to read average, peak or peak hold; two-digit LED display that indicates program number; 2 x 16-digit LCD alphanumeric display with variable contrast/viewing angle; nine status LED's over each application group; three LED's to show effects on/off, MIDI signal and edit mode active

Grounding:
Ground-lift switch disconnects ground from chassis to eliminate hum

Chassis Construction:
Painted steel

Colors,
Front Panel:
Gray with white nomenclature
Top and Sides:
Gray
Input and Bottom Panel:
Black with white nomenclature

Power Requirements:
90-250 volts, 50-60 Hz ac, no changes required, 15 watts maximum

Overall Dimensions (see Figure 1),
Width:
483 mm (19.0 in.)
Height:
43.6 mm (1.73 in.)
Depth:
225 mm (8.85 in.)

Net Weight:
3.5 kg (7.7 lb)

Shipping Weight:
5.0 kg (11 lb)

INPUT SPECIFICATIONS

Rated Input Voltage,
Line:
1.23 volts (+4 dBu)
Instrument:
390 mV (–6 dBu)

Maximum Input Voltage,
Line:
9 V (+21 dBu)
Instrument:
390 mV (–6 dBu)

Input Impedance,
Line:
10 kilohms
Instrument:
500 kilohms

Input Connectors (see Figure 2):
Two 1/4-inch phone plugs with Hi/Lo range switch

OUTPUT SPECIFICATIONS

Rated Output Voltage,
High Range:
2.45 volts (+10 dBu)
Low Range:
730 millivolts (–0.5 dBu)

Maximum Output Voltage:
9 volts (+21 dBu)

Rated Output Impedance:
120 ohms

Output Connectors (see Figure 2):
Two 1/4-inch phone plugs with Hi/Lo range switch

MIDI Connectors:
In; out; through

FIGURE 4 — DRP 10 Effect/Parameter Table

EFFECT	PARAMETER	VALUE RANGE	CONFIGURATION												
			DIRECT ONLY	HIGH-QUALITY REVERB (reverb type: all parameters)	HIGH-QUALITY REVERB (reverb type: gated)	HIGH-QUALITY REVERB (reverb type: easy . . .)	HIGH-QUALITY MODULATION	PITCH SHIFT	LONG DELAY	DELAY + REVERB	PITCH + DELAY + REVERB	MULTI-EFFECT	INSTRUMENTAL EFFECT	DELAY LINE 1 > 2
DIRECT	ORIGINAL LEVEL	0 dB to –79 dB, OFF	●	●	●	●	●	●	●	●	●	●	●	
EQ	EQ LOW	–14 dB to +14 dB		●	●	●	●	●	●	●	●	●	●	●
	EQ HIGH	–14 dB to +14 dB		●	●	●	●	●	●	●	●	●	●	●
REVERB	REVERB LEVEL	0 dB to –48 dB, OFF		●	●	●				●	●	●	●	
	REVERB TYPE	NINE TYPES		●	●	●				●	●	●	●	
	REVERB ROOM SIZE	0.0 m² (0.0 ft²) to 142,990 m² (5,049,644 ft²)	●			●				●	●	●	●	
	REVERB TIME	0.0 sec to 19.9 sec		●		●				●	●	●	●	
	REVERB LF DAMPING	0.0 to 1.1		●		●				●	●	●		
	REVERB HF DAMPING	0.0 to 1.0		●		●				●	●	●	●	
	REFLECTION-REVERB RATIO	–48 dB to +48 dB		●										
	REFLECTION TYPE	TEN TYPES		●										
	REVERB CLUSTER PROPORTION	SIX PROPORTIONS		●										
	REVERB PREDELAY	0.0 msec to 240 msec		●										
	REFLECTION-REVERB-DELAY	0.0 msec to 100 msec		●										
	REVERB GATE TIME	10 msec to 340 msec			●							●		
	REVERB GATE COLOR	1 to 10			●							●		
	REVERB GATE SLOPE	–10 to +10			●							●		
	REVERB GATE PREDELAY	0.0 msec to 200 msec			●							●		
DELAY	DELAY LEVEL	0 dB to –48 dB, OFF							●	●	●	●	●	
	DELAY TYPE								●	●	●	●	●	
	DELAY TIME	1.0 msec to 1,048 msec							●	●	●	●	●	
	DELAY FEEDBACK	0% to +99%							●	●	●	●	●	
MODULATION	MODULATION LEVEL	0 dB to –48 dB, OFF					●					●		
	MODULATION TYPE	EIGHT TYPES					●					●	●	
	MODULATION DEPTH	0 to 10					●					●	●	
	MODULATION SPEED	0.1 Hz — 10.0 Hz					●					●	●	
	MODULATION FEEDBACK	–99% to +99%					●					●	●	
PITCH SHIFT	PITCH 1 LEVEL	0 dB to –48 dB, OFF						●			●			
	PITCH 1 PAN	10L, L = R, 10R						●						
	PITCH 1 DETUNE	–12 to +12						●			●			
	PITCH 1 FINE	–50% to +50%						●			●			
	PITCH 2 LEVEL	0 dB to –48 dB, OFF						●						
	PITCH 2 PAN	10L, L = R, 10R						●						
	PITCH 2 DETUNE	–12 to +12						●						
	PITCH 2 FINE	–50% to +50%						●						
	PITCH TYPE	HQ/FAST						●			●			
DYNAMIC	DISTORTION	1 — 12, OFF											●	
	VOICE FILTER	1.0 kHz to 7.0 kHz, OFF											●	
EFFECT	EFFECT LEVEL	0 dB to –60 dB, OFF								●	●	●	●	
DELAY LINE	DELAY LEVEL LEFT	0 dB to –48 dB, OFF												●
	DELAY LEVEL RIGHT	0 dB to –48 dB, OFF												●
	DELAY TIME LEFT	0.0 msec to 1,048 msec												●
	DELAY TIME RIGHT	0.0 msec to 1,048 msec												●
	DELAY TIME UNIT	FIVE UNITS												●

FIGURE 1 — DRP 10 Dimensions

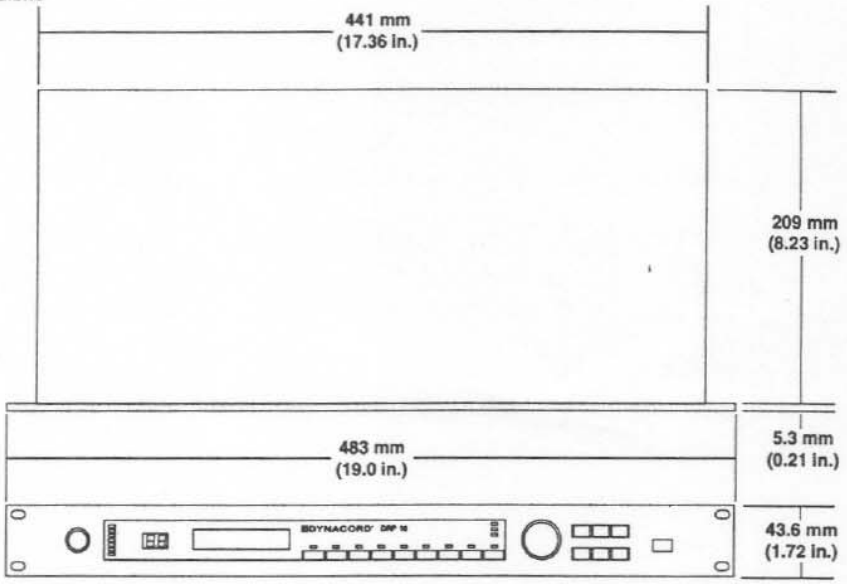


FIGURE 2 — DRP 10 Front and Rear Panel Views

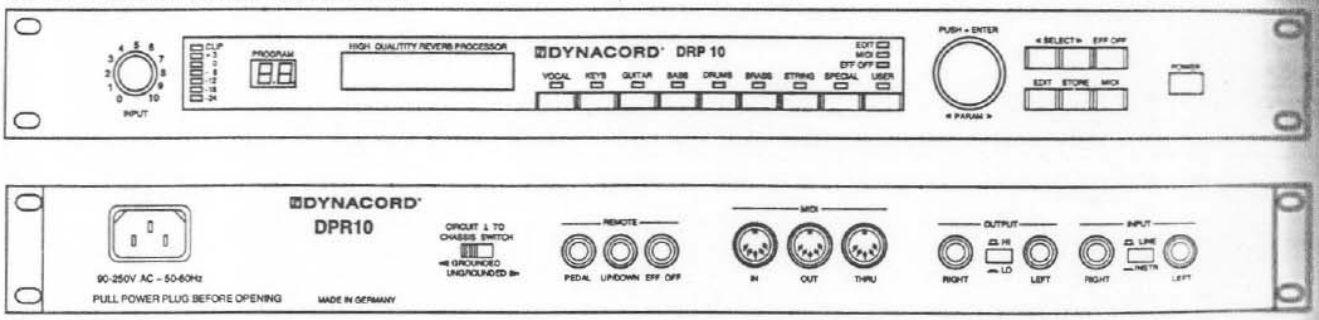
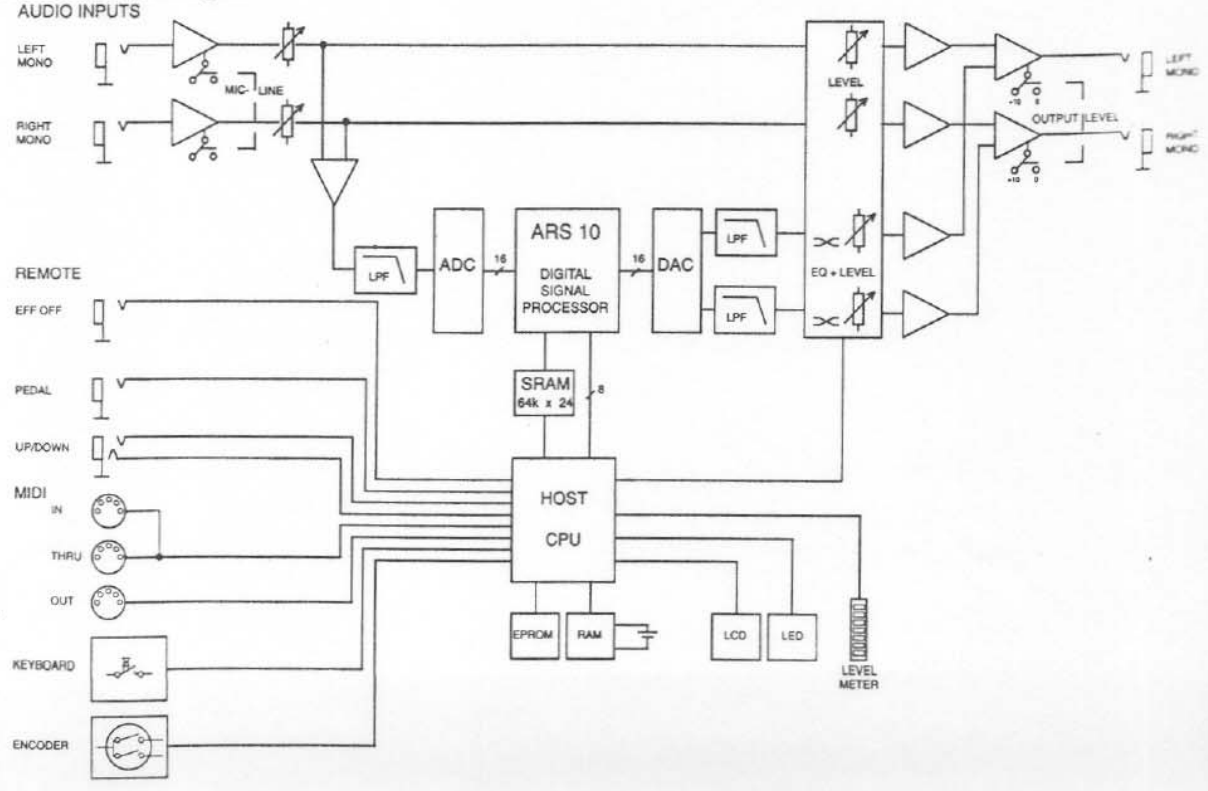


FIGURE 3 — DRP 10 Block Diagram



DESCRIPTION

The EV/Dynacord DRP 10 is a high-quality stereo digital reverb unit and room simulator with excellent single and multi-effects capability. The DRP 10 effects include high-quality room and plate reverbs, delay, chorus, flanger, phaser, space, rotoflanging, pitch shifts and distortion. These effects can be easily edited in real time and stored in 259 user-memory locations. The selection of various configurations enables the user to realize the different effects. A complete table of effects and parameters is shown in Figure 4.

A maximum of six effects can be used in multi-effects structures at one time. The DRP 10's 24-bit internal processing allows flat frequency response from 20 Hz to 20 kHz and ensures that the clarity and dynamics of the original signal are uncolored.

The DRP 10's most unique feature is its operating system. Its new operating environment with preset group keys allows instant selection of effects programs from the user register. The registers include vocals, keys, guitar, bass, drums, brass, strings, special and user. In each preset group, there are 30 preset programs chosen with the help of professional musicians to be useful for that application. There are also 20 user-memory locations in each preset group. In the "user" bank, there are 99 memory slots. In total, the DRP 10 has 240 factory presets and 259 user memories (499 programs total).

The inputs and outputs of the DRP 10 can be switched to –6 dBm or +4 dBm as required, allowing for easy adaptation to any equipment setup. This allows guitars and other instruments, as well as line-level signals, to be accommodated. A front-panel VU meter with switchable characteristics allows easy signal-level monitoring.

Typical program selection on the DRP 10 is accomplished by selecting the specific instrument register, such as "keys," and then scrolling through the menu to select the type of effect desired. The rotary encoder utilized makes program changes quick and easy. The encoder has a push-to-enter button in the center of the control, and it also makes adjustments when editing programs. A 2 x 16-digit alphanumeric back-lit LCD window displays the program name and its configuration.

In the edit mode, the LCD window displays the parameter to be edited and shows by a bargraph where a control setting lies within its range, making editing easier. A series of LED's to the right of the window shows which user group is being used, whether MIDI commands are being received, if the unit is in the edit mode and if the effects are on or off.

The DRP 10 is equipped with a switching power supply that allows operation at any line voltage from 90 to 250 volts at 50 to 60 Hz, without adjustments. The rear-mounted IEC connector allows easy adaptation to any type of ac socket. A separate ground-lift switch ensures that any chassis-induced ac hum can be eliminated. The DRP 10 mounts in one EIA/IEC rack space. Mounting hardware is included.

The DRP 10 block diagram is shown in Figure 3.

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The effects processor shall be a multi-effects unit employing high-quality single effects as well as multi-effects with up to six effects usable simultaneously. The effects shall be reverb, echo, modulation (chorus, flanger, phaser, space, rotor), pitch shifter, equalizer and distortion with voice filter. The unit shall have a delay-line mode with a maximum delay of 1,048 milliseconds. Both inputs shall be switchable from line level (input voltage 1.23 V (+4 dBu), 10-kilohms impedance) to instrument level (input voltage 390 mV (–6 dBu), 500-kilohms impedance). Both outputs shall be switchable from high (output voltage 2.45 V (+10 dBu)) to low (730 mV (–0.5 dBu)). The maximum output voltage shall be 9 V (+21 dBu) with an output impedance of 120 ohms. Input and output connectors shall be unbalanced 1/4-inch phone jacks.

The effects unit shall meet the following performance criteria: frequency response 20-20,000 Hz at less than 0.03% THD; signal-to-noise ratio "original" (dry) of at least 104 dB and "effect" (wet) of at least 90 dB. The effects unit shall contain 16-bit linear analog-to-digital and digital-to-analog converters with 24-bit internal signal processing.

The effects processor shall have its effects arranged according to instrument/user preset groups. The groups shall include vocal, keyboard, guitar, bass, drums, brass, strings and special effects. Each instrument/user group shall have 30 factory programs and 20 memory slots. In addition, there shall be a user memory bank with 99 memory slots. The effects processor shall have a total of 499 factory and user programs.

The unit shall have a switched-mode power supply for operation at voltages from 90 V to 250 V, 50 to 60 Hz, without adjustments. The power consumption shall be 15 watts maximum. The unit shall be manufactured in accordance with all safety classes and fulfill all applicable interference suppression approvals (FCC, VDE and IEC specifications).

The unit shall be rack mountable in one EIA/IEC standard rack space. Dimensions shall be 43.6 mm (1.73 in.) high x 483 mm (19.0 in.) wide x 225 mm (8.85 in.) deep. Net weight shall be 3.5 kg (7.7 lb). The effects unit shall be the EV/Dynacord DRP 10.

WARRANTY (Limited)

Electro-Voice products are guaranteed against malfunction due to defects in materials or workmanship for a specified period, as noted in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual, beginning with the date of original purchase. If such malfunction occurs during the specified period, the product will be repaired or replaced (at our option) without charge. The product will be returned to the customer prepaid. **Exclusions and Limitations:** The Limited Warranty does not apply to: (a) exterior finish or appearance; (b) certain specific items described in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual; (c) malfunction resulting from use or operation of the product other than as specified in the product data sheet or owner's manual; (d) malfunction resulting from misuse or abuse of the product; or (e) malfunction occurring at any time after repairs have been made to the product by anyone other than Electro-Voice or any of its authorized service representatives. **Obtaining Warranty Service:** To obtain warranty service, a customer must deliver the product, prepaid, to Electro-Voice or any of its authorized service representatives together with proof of purchase of the product in the form of a bill of sale or receipted invoice. A list of authorized service representatives is available from Electro-Voice at 600 Cecil Street, Buchanan, MI 49107 (616/695-6831 or 800/234-6831) and/or Electro-Voice West, at 8234 Doe Avenue, Visalia, CA 93291 (209/651-7777 or 800/825-1242). **Incidental and Consequential Damages Excluded:** Product repair or replacement and return to the customer are the only remedies provided to the customer. Electro-Voice shall not be liable for any incidental or consequential damages including, without limitation, injury to persons or property or loss of use. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you. **Other Rights:** This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Electro-Voice and EV/Dynacord Electronics are guaranteed against malfunction due to defects in materials or workmanship for a period of three (3) years from the date of original purchase. Additional details are included in the Uniform Limited Warranty statement.

Service and repair address for this product: Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (616/695-6831 or 800/234-6831).

Specifications subject to change without notice.

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