BINARY

Binary IR Cab Owner's Manual

Welcome

Congratulations on your new Hotone Binary pedal! You have just added some serious power to your pedalboard.

The Binary series lets loose versatile pro effects in compact cases. A dual-DSP powered platform and CDCM modeling system ensure a realistic playing experience, dual-footswitch design and variable I/Os make it easy to use, and an OLED screen offers clear, detailed display.
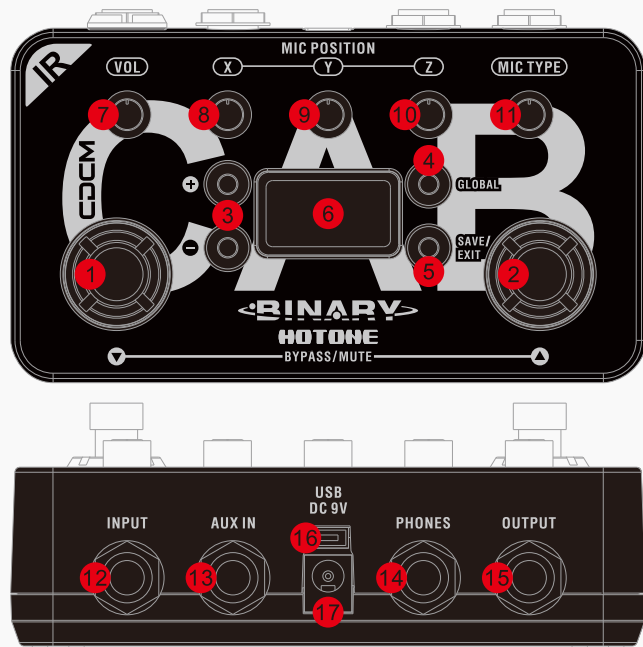
Binary IR Cab is an Impulse Response based cabinet simulator delivering precise legendary vintage/modern guitar/bass cab sounds along with CDCM powered legendary studio microphone/power amp simulations.
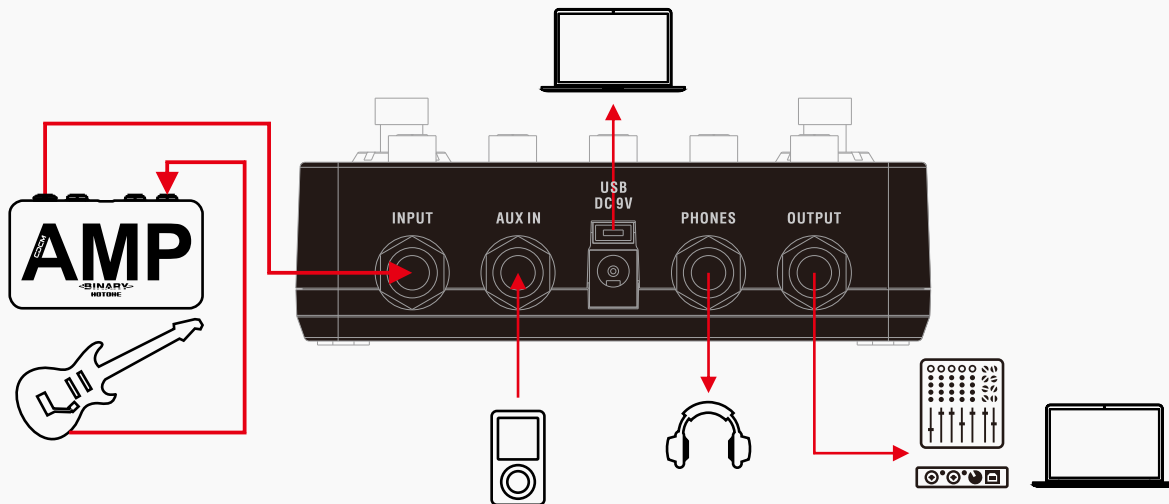
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Features

✪ Grown out of next-gen XTOMP technology

✪ Compact, easy-to-use dual footswitch IR cabinet simulator pedal

✪ Advanced CDCM modeling system ensures realistic playing experience

✪ Dual DSP-powered platform ensures high sound quality

✪ 24-bit A/D/A conversion, up to 110dB S/N ratio

✪ 100 legendary cab models

✪ 10 CDCM based legendary studio microphone simulations

✪ Detailed mic position (X, Y, Z) and room simulations

✪ 8 CDCM based power amp simulations with presence control

✪ Supports 3rd party IR files

✪ USB jack for firmware upgrading, loading/managing IRs with free PC/Mac software

✪ Aux in and headphone output for practicing and jamming

✪ 100 Presets

✪ Built-in OLED screen with clear display

✪ 5 transparent knobs with LEDs

✪ 9V DC power supply

Panel Introduction

1-2. ▽/△: For selecting presets, bypass/mute, and other parameters.

3. +/- buttons: For selecting effects and adjusting parameters.

4. GLOBAL: For power amp and room control settings.

5. SAVE/EXIT button: For saving or canceling parameter changes.

6. OLED screen: Shows bank/patch numbers, setting values and other operation info.

7. VOL: Controls effect output level.

8-10. MIC POSITION X/Y/Z: Controls the mic position simulations.

11. MIC POSITION: Selects (or turns off) different microphone simulations.

12. INPUT: 1/4" (6.35mm) mono jack, for plugging in instruments or other effects.

13. AUX: 1/4" (6.35mm) stereo jack, for plugging in audio players.
   Note: You can hear only left channel signal when using along with OUTPUT jack.

14. PHONES: 1/4" (6.35mm) stereo jack, for connecting headphones.

15. OUTPUT: 1/4" (6.35mm) mono jack, for connecting to audio interfaces, mixers or other effects.

16. USB jack: Mini USB jack, for effects editing, firmware updates, and factory reset.

17. DC 9V: Plug in your power supply here (DC 9V, center negative).

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Connections

USB
DC 9V

INPUT   AUX IN   PHONES   OUTPUT

AMP

Note: TURN ON FIRST, TURN OFF LAST. Always mute the mixer/audio interface before plugging or unplugging power jacks, cables, etc. When you're using a mixer or an audio interface, please adjust the onboard knobs carefully to avoid signal clipping.

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Display

Plugging in your power supply will turn on the device. The main display will come up as shown below:

1 - Current bank/patch number
2 - Indicates the cab model you're using in current patch

Select a Patch

Tap either ▽/△ footswitch once to change patches (hold one footswitch to switch patches quickly). Tap △ footswitch repeatedly to cycle through patches in the order 00, 01, 02,03, …, 99, then 00. Tap ▽ footswitch to change patches in the opposite order.

Bypass/Mute

Tap both ▽/△ footswitches at the same time.

To set the unit to bypass: release the footswitches within 2 seconds.
To set the unit to mute: hold the footswitches more than 2 seconds until "MUTE" appears on the screen.

Tap both ▽/△ footswitches again to go back to normal.
In Bypass/Mute status, all the LED knobs will go out.

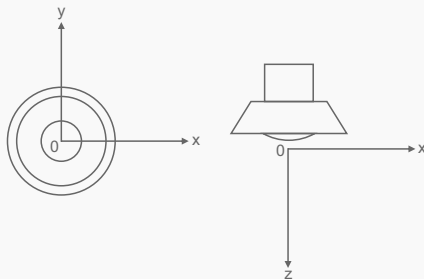*Note: AUX IN will not be muted in MUTE status.*

Edit

1. Adjust the parameters

Use the onboard knobs to adjust the effect parameters. The screen display will be shown as below when adjusting:

1 - Current parameter value you're adjusting (shown: volume)
2 - Saved parameter value in the current patch (PREV. = Previous value)

The MIC POSITION X/Y controls the microphone horizontal/vertical position, set X=Y=0 to set the microphone on axis; Z controls the distance between microphone and speaker cap.

The MIC TYPE lets you select a microphone type you like. Turn this knob to minimum to turn off microphone simulation.

Edit

2. Select a different effect

Use the +/- button to change to another cab sim (hold for fast changing):

The inverted bank/patch number indicates that the current patch has been edited.

Edit

3. Adjust power amp and room settings

In main display, press the GLOBAL button to edit the power amp in the current patch. Press the GLOBAL button repeatedly to cycle through power amp type, presence, room amount settings and firmware version info (after firmware v1.1.1 update):

```
POWER AMP          POWER AMP            ROOM
  TYPE:       ►     PRESENCE:    ►     AMOUNT:

  6L6P                  9                OFF
```

Use the +/- buttons to set the power amp type (or turn power amp sim off)/power amp presence/room amount (or turn room simulation off). Press the SAVE/EXIT button (or wait for 3 seconds without any operation) to confirm settings and exit to the main display.

Note: If you change to another patch before saving your edits, all your changes will be lost. Save the patches to keep your changes.

Save

Hold the SAVE/EXIT button to activate save function. The screen will be shown as below:
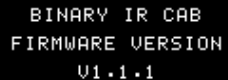
Use the +/- buttons to choose a location (hold one button to choose quickly). Tap the SAVE/EXIT button to confirm saving. Press either footswitch to cancel saving and go back to edit status.

Check Firmware Version

You can check firmware version on your Binary IR Cab after updating to firmware v1.1.1 or later.
To check firmware version, press GLOBAL button repeatedly until the firmware version info is displayed on the screen:

```
BINARY IR CAB
FIRMWARE VERSION
    V1.1.1
```

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Cab Models List*

No.	Name	Description	Speaker Size
		Quickstart	
1	BRIT LEAD 4X12	This IR is based on a Marshall 1960AV* 4x12 cabinet with four 12-inch Celestion Vintage 30* speakers.	4x12
2	USA RECT 4x12	This IR is based on a Mesa/Boogie Rectifier* cabinet with four 12-inch Celestion Vintage 30* speakers.	4x12
3	VOXY TB 2x12	This IR is based on a Vox AC30 Top Boost* cabinet with two 12-inch Vox*-labeled silver speakers.	2x12
4	DARK DUO 2x12	This IR is based on a Fender ' 65 Twin Reverb* cabinet with two Jensen C12K* speakers.	2x12
5	BRIT TRAD 4x12	This IR is based on a vintage '68 Marshall* Basketweave 4x12 cabinet with four 12-inch Celestion Greenback* speakers.	4x12
6	DARK LUX 1x12	This IR is based on a Fender VibroLux* 1x12 cabinet with one 12-inch custom speaker.	1x12
7	TWD LUX 1x12	This IR is based on a Fender Tweed Deluxe* cabinet with one 12-inch Jensen P12R* speaker.	1x12
8	JAZZ TWIN 2x12	This IR is based on the legendary "Jazz Clean" cabinet with two 12-inch "Silver Cone" speakers.	2x12
9	CHEF MIX 2x12	This IR is based on a Matchless* 2x12 cabinet with one 12-inch Celestion G12H* speaker & and one 12-inch Celestion G12M* speaker.	2x12
10	BASE MAN 4x10	This IR is based on a Fender '59 Bassman* cabinet with four 10-inch Jensen P10Q* speakers.	4x10
		Modern Selections	
11	BRIT T75 4x12	This IR is based on a Marshall 1960B* cabinet with four 12-inch Celestion T75* speakers.	4x12
12	BRIT MOD 4x12	This IR is based on a modified 1970's Marshall 1960TV* 4x12 cabinet.	4x12
13	BRIT GRN 4x12	This IR is based on a Marshall 1960A* cabinet with four 12-inch Celestion Greenback* speakers.	4x12
14	BRIT JUBY 2x12	This IR is based on a Marshall 2550* 2x12 cabinet with two 12-inch Celestion Greenback* speakers.	2x12
15	BRIT JUBY 4x12	This IR is based on a Marshall 2551* 4x12 cabinet with four 12-inch Celestion Greenback* speakers.	4x12
16	BOG V30 4x12	This IR is based on a Bogner* 4x12 cabinet with four 12-inch Celestion Vintage 30* speakers.	4x12
17	GER V30 4x12	This IR is based on a ENGL* 4x12 cabinet with four 12-inch Celestion Vintage 30* speakers.	4x12
18	GER TRIP 4x12	This IR is based on a Hughes & Kettner* Triamp* cabinet with four 12-inch Celestion Greenback* speakers.	4x12
19	UBER 75 4x12	This IR is based on a Bogner* Uberkab* cabinet with four 12-inch Celestion T-75* speakers.	4x12
20	UBER MIX 4x12	This IR is based on a Bogner* Uberkab* cabinet with two 12-inch Celestion T-75* speakers and two 12-inch Celestion Vintage 30* speakers.	4x12
21	DIZZ V30 4x12	This IR is based on a Diezel* 4x12 cabinet with four 12-inch Celestion Vintage 30* speakers.	4x12
22	SOLO 100 4x12	This IR is based on a Soldano* 4x12 cabinet with four 12-inch Eminence V1216* speakers.	4x12
23	AREA 51 2x12	This IR is based on a Peavey* 5150* cabinet with two 12-inch Sheffield 1200* speakers.	4x12
24	AREA 53 4x12	This IR is based on a EVH 5150 III* cabinet with four 12-inch speakers.	4x12
25	AREA 65 4x12	This IR is based on a Peavey 6505* cabinet with four 12-inch Sheffield 1200 speakers.	4x12
26	USA TRAD 4x12	This IR is based on a 1980s Mesa/Boogie* cabinet with four 12-inch Celestion Vintage 30* speakers.	4x12
27	USA LEAD 4x12	This IR is based on a Mesa/Boogie* 4x12 cabinet with four 12-inch Celestion Classic 80* speakers.	4x12
28	USA KING 4x12	This IR is based on a Mesa/Boogie Road King* cabinet with four 12-inch Mesa/Boogie "Black Shadow" * speakers.	4x12
29	OGRE V30 4x12	This IR is based on an Orange PPC412* cabinet with four 12-inch Celestion Vintage 30* speakers.	4x12
30	CAVE LEAD 2x12	This IR is based on a Carvin Legacy* 2x12 cabinet with two 12-inch Celestion Vintage 30* speakers.	2x12

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Cab Models List*

Vintage Selections			
31	TWD CHAP 1x8	This IR is based on a vintage Fender Champ* 1x8 cabinet.	1x8
32	TWD PC 1x10	This IR is based on a vintage Fender Princeton* 1x10 cabinet.	1x10
33	BASE MAN 2x12	This IR is based on a vintage Fender "Piggyback" Bassman* 2x12 cabinet.	2x12
34	VIB 30 1x12	This IR is based on a vintage Fender Vibrolux* 1x12 cabinet.	1x12
35	SILV TWIN 2x12	This IR is based on a vintage Fender Silverface Twin Reverb* 2x12 cabinet.	2x12
36	DUAL SHOW 2x15	This IR is based on a Fender Dual Showman* 2x15 cabinet with two 15-inch JBL D130* speakers.	2x15
37	SUP VERB 4x10	This IR is based on a vintage Fender Super Reverb* 4x10 cabinet.	4x10
38	USA REC 1x12	This IR is based on a vintage 1980's Mesa/Boogie* 1x12 cabinet.	1x12
39	SUP ZEP 1x6	This IR is based on a vintage Supro* 1x6 cabinet with a 6" x9" offset speaker.	1x6
40	SUP DUO 2x12	This IR is based on a Supro 1624T* 2x12 cabinet.	2x12
41	SUP BOLT 1x15	This IR is based on a Supro Thunderbolt* 1x15 cabinet.	1x15
42	VOXY 15 1x12	This IR is based on a vintage Vox AC15* cabinet with one 12-inch Celestion Alnico Blue* speaker.	1x12
43	VOXY SILV 2x12	This IR is based on a vintage Vox AC30* cabinet with two 12-inch Celestion Alnico Silver* speakers.	2x12
44	VOXY GRN 4x12	This IR is based on a vintage Vox* 4x12 cabinet with four 12-inch Celestion Greenback* speakers.	4x12
45	HIWY VINT 4x12	This IR is based on a vintage Hiwatt SE4123* cabinet with four 12-inch Fane Purpleback* speakers.	4x12
46	THE WAY 4x12	This IR is based on a vintage WEM 4x12* cabinet with four 12-inch Fane* speakers.	4x12
47	BRIT DARK 4x12	This IR is based on a vintage '68 Marshall* 4x12 cabinet with four 12-inch Celestion G12H Blackback* speakers.	4x12
48	BRIT AX 4x12	This IR is based on a vintage 1960's Marshall 1960AX* cabinet.	4x12
49	BRIT G12L 4x12	This IR is based on a late-1960's Marshall* 4x12 cabinet with four 12-inch Celestion G12L* speakers.	4x12
50	DUM M160 4x12	This IR is based on a vintage Dumble* 4x12 cabinet with four 12-inch Eminence* speakers.	4x12
Boutique Selections			
51	CAR ROAR 1x12	This IR is based on a Carr Roamer* 1x12 cabinet.	1x12
52	CHEF TWIN 2x12	This IR is based on a Matchless* 2x12 cabinet.	2x12
53	STAR FALL 2x12	This IR is based on a Mesa/Boogie Lonestar* 2x12 cabinet.	2x12
54	DARK FALL 1x12	This IR is based on a Mesa/Boogie Lonestar* 1x12 cabinet with one 12-inch Mesa/Boogie "Black Shadow" speaker.	1x12
55	SHIV CLN 1x12	This IR is based on a Bogner Shiva* 1x12 cabinet with one 12-inch Celestion Classic Lead 80* speaker.	1x12
56	VOXY MOD 2x12	This IR is based on a Vox V212H* cabinet with two 12-inch Celestion Alnico Blue* speakers.	2x12
57	FREE CAB 2x12	This IR is based on a Fryette Deliverance* 2x12 cabinet with two 12-inch Eminence P50E* speakers.	2x12
58	DARK CTM 2x12	This IR is based on a modified Fender* 2x12 cabinet with two 12-inch Eminence EJ1250* speakers.	2x12
59	TWIN ROCK 2x12	This IR is based on a Two-Rock* 2x12 cabinet.	2x12
60	BAD RAT 1x12	This IR is based on a Black Cat Hot Cat* 1x12 cabinet with one 12-inch Celestion Vintage 30* speaker.	1x12
61	DUM BELL 4x12	This IR is based on a Dumble* 4x12 cabinet with four 12-inch EVM 12L* speakers.	4x12
62	RUM BELL 4x12	This IR is based on a Dumble* 4x12 cabinet with two 12-inch EVM 12L* and two EVM 12S* speakers.	4x12
63	ATOM OPEN 1x12	This IR is based on a Swart Atomic Space* 1x12 open back cabinet.	1x12
64	HIGH END 2x12	This IR is based on a boutique custom 2x12 cabinet featuring very high sound resolutions.	2x12
65	DEEP DIVE 1x12	This IR is based on a Divided by 13 CJ 11* cabinet with one 12-inch Celestion G12M* speaker.	1x12

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Cab Models List*

		Bass Cabs	
66	BIG SV 8x10	This IR is based on an Ampeg SVT-810E* 8x10 bass cabinet.	8x10
67	WORK BEN 1x15	This IR is based on a SWR* 1x15 bass cabinet.	1x15
68	FLIP TOP 1x15	This IR is based on an Ampeg PF-115HE* 1x15 bass cabinet.	1x15
69	BIG SV 4x10	This IR is based on an Ampeg SVT-410HE* 4x10 bass cabinet.	4x10
70	ALU BASS 4x10	This IR is based on a Hartke* 4x10 cabinet with four 10-inch aluminum speakers.	4x10
71	USA BASS 2x10	This IR is based on a Mesa/Boogie* 2x10 bass cabinet.	2x10
72	ADAM BTM 1x15	This IR is based on a David Eden* 1x15 bass cabinet.	1x15
73	ADAM TOP 4x10	This IR is based on a David Eden* 4x10 cabinet.	4x10
74	MK BASS 4x10	This IR is based on a Mark Bass* 4x10 cabinet.	4x10
75	VOXY BASS 2x12	This IR is based on a vintage Vox V125* 2x12 bass cabinet.	2x12
76	ALU BASS 4x12	This IR is based on a Hartke* 4x12 bass cabinet with four 12-inch aluminum speakers.	4x12
77	WORK MAN 4x10	This IR is based on a SWR Workingman's 4x10* bass cabinet.	4x10
78	HF BASS 4x10	This IR is based on a 4x10 bass cabinet with a high frequency tweeter.	4x10
79	SUB BASS 1x15	This IR is based on a low contoured 1x15 bass cabinet.	1x15
80	SUB BASS 4x10	This IR is based on a low contoured 4x10 bass cabinet.	4x10
		Addendum	
81	BRIT PRC 4x12	This IR is based on a vintage Marshall* 4x12 cabinet with four 12-inch "Pre-Rola" Celestion G12M Blackback* speakers.	4x12
82	BRIT G12T 1x12	This IR is based on a Marshall* 1x12 cabinet with one 12-inch Celestion G12T-75* speaker.	1x12
83	BRIT 70S 4x12	This IR is based on a vintage 1970s Marshall 1960TV* 4x12 cabinet.	4x12
84	BRIT G12M 1x12	This IR is based on a Marshall 1x12 cabinet with one 12-inch Celestion G12M* speaker.	1x12
85	BRIT K120 4x12	This IR is based on a modified Marshall* cabinet with four 12-inch JBL K120* cabinet.	4x12
86	BLUE WING 1x12	This IR is based on a Bludotone* 1x12 cabinet with one 12-inch Blackhawk WGS Alnico* speaker.	1x12
87	THE POPE 1x15	This IR is based on a 1x15 cabinet with one 15-inch Eminence* speaker.	1x15
88	TWD SPR 2x10	This IR is based on a custom Fender Tweed* 2x10 cabinet with two 10-inch Weber Sig-10* cabinet.	2x10
89	DLX FN12 1x12	This IR is based on a Mojotone* 1x12 cabinet with one 12-inch Fane* speaker.	1x12
90	BOG SHIV 2x12	This IR is based on a Bogner Shiva* 2x12 cabinet with two 12-inch Fane* speakers.	2x12
91	TWD PRO 1x15	This IR is based on a Fender Tweed Pro 1x15 cabinet.	1x15
92	CARA TRIP 1x12	This IR is based on a Carol-Ann Triptik* 1x12 cabinet.	1x12
93	BRIT R121 4x12	This IR is based on a modified Marshall* 4x12 cabinet with mixed speakers.	4x12
94	CEL G12H 4x12	This IR is based on a 4x12 cabinet with four 12-inch Celestion G12H-30* speakers.	4x12
95	JESN 59F 2x10	This IR is based on a vintage Fender* 2x10 cabinet with Jensen* speakers.	2x10
96	BASE MIX 4x10	This IR is based on a Fender Bassman* 4x10 cabinet with mixed speakers.	4x10
97	USA JP30 4x12	This IR is based on a Mesa/Boogie* 4x12 cabinet.	4x12
98	MORG AC20 1x12	This IR is based on a Morgan AC-20 Deluxe* 1x12 cabinet.	1x12
99	CEL BLUE 2x12	This IR is based on a 2x12 cabinet with two 12-inch Celestion Alnico Blue* speakers.	2x12
100	D120 PRO 4x12	This IR is based on a 4x12 cabinet with four 12-inch JBL D120* speakers.	4x12

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Mic Models List*

No.	Mic Type	Based On	Type
1	OFF	N/A	N/A
2	DY57	Shure SM57	Dynamic
3	DY58	Shure SM58	Dynamic
4	D421	Sennheiser MD421	Dynamic
5	RE16	Electro-Voice RE16	Dynamic
7	D112	AKG D112	Dynamic
6	E609	Sennheiser e609	Dynamic
8	B87A	Shure Beta 87A	Condenser
9	U87	Neumann U87	Condenser
10	R121	Royal R121	Ribbon
11	U67	Neumann U67	Condenser
12	INV	Phase Invert	N/A

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Power Amp Models List

No.	Power Amp Type	Description
1	OFF	N/A
2	EL84S	EL84 Single-Ended (SE)
3	EL84P	EL84 Push-Pull (PP)
4	6L6P	6L6 Push-Pull (PP)
5	EL34P	EL34 Push-Pull (PP)
6	KT88S	KT88 Single-Ended (SE)
7	KT88P	KT88 Push-Pull (PP)
8	EL34S	EL34 Single-Ended (SE)
9	6L6S	6L6 Single-Ended (SE)

Output Data

Input Signal	-10dBV/100Hz IN				-10dBV/1kHz IN				-10dBV/10kHz IN				Max Volume MIC OFF POWER AMP OFF ROOM OFF
	PHONES		OUTPUT		PHONES		OUTPUT		PHONES		OUTPUT		
	mV	dBV	mV	dBV	mV	dBV	mV	dBV	mV	dBV	mV	dBV	
(Built-in) IR ON	115.7	-18.7	350	-9	131	-17.6	399	-7.9	10	-39.3	33	-29.6	
FLAT IR	159	-15.9	548	-5.2	137	-15.4	461	-6.3	19.3	-26.6	45.7	-19.7	
BYPASS	95.7	-20.3	302	-10.3	98.5	-20.1	309	-10.2	99	-20	379.8	-9.9	

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Specifications

Number of Patches: 100

Number of Effects: 100 cabs, 8 power amp types, 10 mic types

Digital Processing: 24-bit A/D/A conversion, 48 kHz sample rate

Supported IR file format: 24-bit, 48kHz

Max. Truncation Time: 20ms

Frequency Response: 20 Hz-20 kHz

S/N Ratio: Up to 110dB

Input Impedance: 1M Ohms

Output Impedance: 100 Ohms

Power Requirement: DC 9V, center negative

Current Consumption: 200mA minimum

Dimensions: 121mm (D) x 72mm (W) x 47mm (H)

Weight: 340g

The contents of this manual are subject to change without notice.

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