

Plan

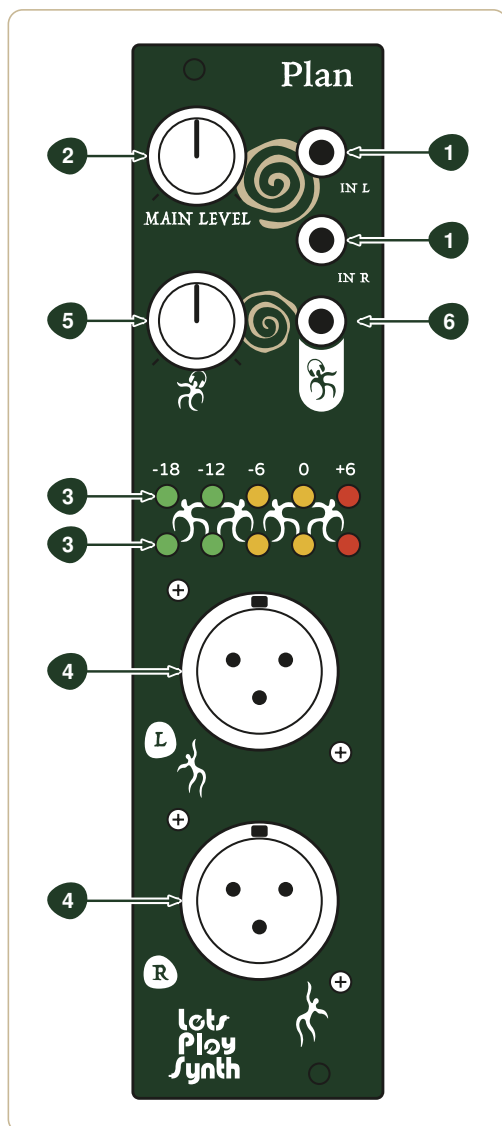
PLAY BOOK



BALANCED OUTPUT & HEADPHONE AMPLIFIER

Two balanced XLR line outputs
Independent main and headphone levels
High-current headphone amplifier
Stereo five-step LED level meter
Unity-gain signal path from input to output

lets
Play
Synth



CONTROL	WHAT IT DOES
1 IN L · IN R	Audio in (IN L alone feeds both)
2 MAIN LEVEL	Level at the XLR outputs and the meter
3 METER	Level after MAIN LEVEL: top row L, bottom row R
4 XLR OUTPUTS	Balanced line out, L and R
5 PHONES LEVEL	Headphone volume
6 PHONES	Stereo headphone out, 3.5 mm

FIG. 1 Plan front panel layout and controls

Let's Play Synth! Plan is a balanced output and headphone amplifier, the last stop in your signal chain. It takes a stereo signal from your Eurorack system and hands it to the outside world. Two balanced XLR outputs connect to a mixing desk, an audio interface or powered monitors. A headphone amplifier lets you listen at the case, and a stereo LED meter shows the level at a glance.

Every stage in Plan works at unity gain, so your sound leaves the case the way it came in. The two level controls can only turn the signal down.

The input buffer feeds two independent paths (fig. 2): **MAIN LEVEL** sets what goes to the XLR outputs and the meter, and **PHONES LEVEL** sets what goes to the headphones. You can change the headphone volume without touching what the desk hears.

✧ INSTALLATION

Plan needs 6HP of free space in your Eurorack case. Connect the ribbon cable to the bus board so that the red stripe, which marks the -12 V rail, matches the -12 V marking on both the module and the bus board. Plan uses a 10-pin power header and has protection against a reversed connection.

Fasten the module with the supplied screws before powering up.

✧ INPUTS

IN L and **IN R** 1 accept any audio signal from your system. Each input is buffered and AC-coupled, which blocks DC offsets, and has an input impedance of about 100 kΩ.

With nothing patched to **IN R**, it takes the signal from **IN L**. A mono source patched to **IN L** then appears on both channels.

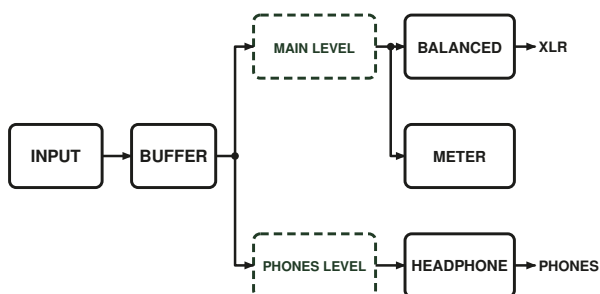


FIG. 2 Signal flow of one channel; left and right are identical

✧ MAIN LEVEL AND XLR OUTPUTS

MAIN LEVEL 2 sets the level of both channels together. Fully clockwise, the XLR outputs carry the input at unity gain; turning the knob down only attenuates.

Each XLR output 4 carries a balanced version of its channel: pin 2 is hot, pin 3 is cold and pin 1 is ground. Over a balanced cable, the receiving end cancels the noise picked up along the way, so long cable runs stay quiet. The output impedance is 150 Ω , 75 Ω on each leg. The outputs are AC-coupled.

For an unbalanced input, use a cable that connects pin 2 to the tip and pin 1 to the sleeve, and leave pin 3 unconnected. The level then drops by 6 dB.

✧ Eurorack signals are hot. A full-scale ± 5 V signal is about +13 dBu, 9 dB above professional line level (+4 dBu). Use **MAIN LEVEL** and the meter to bring it down to what the receiving equipment expects.

✧ THE LEVEL METER

The meter 3 has two rows of five LEDs: the upper row shows the left channel, the lower row the right. It reads the level after **MAIN LEVEL**, the same level that leaves the XLR outputs.

-18	-12	-6	0	+6
green	green	yellow	yellow	red

Each LED lights at the level printed above it on the panel. Like a typical peak meter, it jumps to each peak at once and falls back over about 0.3 s.

For most mixers and audio interfaces, set **MAIN LEVEL** so that the yellow LEDs light on loud passages and the red LED only flickers on the highest peaks. Treat the red LED as a guide:

the XLR outputs have plenty of headroom above it, so a flash of red does not mean clipping.

✧ HEADPHONES

PHONES LEVEL 5 sets the volume at the **PHONES** output 6, a stereo 3.5 mm jack: tip is left, ring is right and sleeve is ground. It has no effect on **MAIN LEVEL** or the meter.

The high-current headphone amplifier runs at unity gain and drives any headphones, with an output impedance of about 50 Ω .

✧ At full volume, Eurorack levels are far louder than consumer headphone levels. Always turn **PHONES LEVEL** fully counterclockwise before putting your headphones on, then bring it up a little at a time.

✧ PATCH IDEAS

- **Into the desk.** Patch Chiron **OUT L** and **OUT R** to **IN L** and **IN R** and run two XLR cables to the mixer. Set **MAIN LEVEL** while playing the loudest part of your patch.
- **Mono to both sides.** Patch a single voice to **IN L** only: it reaches both XLR outputs and both ears of your headphones.
- **Monitor while you record.** Set **MAIN LEVEL** once for the interface, then ride **PHONES LEVEL** as you play; the recording level stays put.
- **Checking a patch.** Before a performance, play the loudest section of your patch and watch the meter. If the red LED stays lit, turn **MAIN LEVEL** down or lower the output of the last module in the chain.

TECHNICAL SPECIFICATION

WIDTH	DEPTH	POWER	CURRENT DRAW
6HP	35 mm	±12V 10-pin header with reverse-polarity protection	+12 V 55mA -12 V 45mA +5 V not used

INPUTS		OUTPUTS	
IN L / IN R	unbalanced, 100 kΩ	XLRL / R	balanced, 150 Ω
		PHONES	stereo 3.5 mm, 50 Ω

METER	SCALE	ATTACK	RELEASE
2 × 5 LEDs	-18 ... +6 dBu, 6 dB steps	instant	≈ 0.3 s



THE LETSPLAYSYNTH FAMILY

GENESIS	wavetable VCO with built-in unison
APSARAS	RandomArp sequencer
CHIRON	envelope generator and stereo VCA
PLAN	balanced output and headphone monitor

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Let's Play Synth
Designed by KX, Lua, Lui
Made in Taiwan
letsplaysynth.com

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