OBQ-1

A location-mixer channel: a transformer pre on a 12 V battery rail, a broad, gentle three-band EQ, a compressor that tames the harsh middle of a voice, and a pan that places a sound the way a spaced pair of microphones hears it.

> **A Lab plug-in.** The Lab is where new GFX plug-ins are built in the open: they may change sound or controls between versions.

Overview

OBQ-1 is a channel in the spirit of a 70s / 80s British portable location mixer: the battery-powered kind that went out on film sets, outside broadcasts and field recordings. Its name comes from the address of a famous Soho studio of the 60s and 70s (17 St Anne's Court, W1F 0BQ).

The pre is transformer-balanced and clean at normal levels, with a low end that thickens first when you push it. It runs from a 12 V rail, so it has less headroom than a studio desk: driven hard, it rounds and squeezes earlier, and the O.L. lamp warns you. After the pre come a high-pass filter, a broadcast-style three-band EQ, a line amp on the same rail, the voice COMP, LEVEL and the pan.

Two things the original never had. **SPACED PAIR pan**: as you pan, the far side hears the sound a little later as well as a little quieter, as a spaced pair of microphones would, so the image gets width and depth. The timing lives only in the stereo difference, so the mono fold-down is exactly an ordinary pan: no comb filtering. **COMP** watches the harsh

middle of a voice (800 Hz - 2 kHz) over a long 900 ms window and dips it when it stands out, lifting the lows and highs gently so the voice keeps its level.

Mono in gives mono out, stereo in gives stereo out: each side runs through its own circuit, with the EQ and COMP linked. Every knob glides and every key crossfades, so nothing clicks, including preset changes.

Reach for it for

- Dialogue and interviews: a clean pre, a high-pass for rumble and COMP for harshness
- Placing a mono source in a stereo mix with real width (SPACED PAIR)
- Acoustic guitar, piano and room mics that should sound wide but fold down to mono cleanly
- A touch of transformer weight and battery-rail squeeze on a pushed signal

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Controls

The header

PRESETS	Click it for the preset list.
◀ / ▶	Steps to the previous or next preset, wrapping round.
Preset display	Shows the preset's name. Click it for the list too.
BYPASS	Lit: you hear the untouched input, kept in time with the rest of the project. It crossfades in and out, so it never clicks: use it rather than REAPER's on / off switch to compare. The meters dim while it is lit.
OS	Click to step through 1x, 2x and 4x (default 2x): the rate the pre, filter, EQ and line amp run at. 2x keeps a driven pre clean of aliasing; 4x is for heavy GAIN on bright material; 1x saves CPU and has no latency. Changing it dips the sound for 5 ms.
S / M / L / ?	The panel size, and the credits with a link to this manual.

Every knob shows its value while you hover over it or turn it. Double-click a knob to return it to its default; hold Shift while dragging for fine moves.

INPUT

GAIN	-20 to +30 dB (default 0). The pre's gain. Up to about +6 dB it stays clean; beyond that the transformer's lows thicken and the rail starts to round and squeeze the peaks. Bring LEVEL down to match.
O.L.	Lights when the pre is within 3 dB of its rail: the point where the sound starts to colour.

H.P.F.

OFF / 90 Hz / 150 Hz	A 12 dB per octave high-pass after the pre: 90 Hz for handling noise and rumble, 150 Hz for wind and a thin, close voice. Switching glides, in and out crossfaded.

EQUALISER

EQ IN	Lit (default): the EQ is in. Dark: it is out (crossfaded), for comparing.
LF	±12 dB, a gentle shelf at 100 Hz: weight or tidy lows.
MF	±10 dB, a broad bell at 2.8 kHz: presence and diction, or less edge.
HF	±12 dB, a gentle shelf at 10 kHz: air and openness.
COMP	The voice compressor (default off). It compares the harsh middle of the voice (800 Hz - 2 kHz) with the whole signal, both averaged over 900 ms. When that band stands out by more than it should, it is pulled down (a broad dip around 1.26 kHz, up to 6 dB at the standard DEPTH) and the lows (220 Hz) and highs (5 kHz) come up gently to keep the loudness where it was. The long window makes it move like a slow hand on an EQ, not a pumping compressor. The lamp beside the key glows with the dip.
DEPTH	0 - 100 % (default 50). How much COMP does: 50 % is the standard amount, 100 % allows up to 12 dB of dip with more lift to match, 0 % does nothing. Greyed while COMP is off.

OUTPUT

PAN	A to B (left to right, default centre, marked 0). Constant power, with unity in the centre. On a stereo source it works as a balance on the source's own width.
SPACING	0 - 60 cm (default 0). How far apart the imaginary spaced pair is. At 0 the pan is an ordinary level pan; turned up, the far side also hears the sound later (up to 1.75 ms at full pan) and a little louder than a plain pan would give it, for width and depth. The mono sum never changes.
LEVEL	-40 to +10 dB (default 0). The output level.
DRIFT	0 - 100 % (default 50): BATTERY. The cells tire: the rail sits lower (about 1.5 dB at 50 %, 3 dB at 100 %), wanders slowly and sags under loud programme, so the pre runs out of headroom sooner; the level wanders a hair. At 0 % the cells are fresh and the rail is steady.
V	Lights when the battery rail has fallen far enough to matter (low voltage).

The meters

VU A / B	The output of each side, 0 VU = -18 dBFS, with VU ballistics. The faces are lit from behind by a daylight-white lamp, dimmed while BYPASS is lit.

Presets

Presets leave OS and BYPASS as they are, and set DEPTH to 50 %.

Init	Everything flat: GAIN 0, no filter, EQ flat, centre, COMP off.
Dialogue: Close Mic	90 Hz high-pass, a little presence and less low end, COMP on.
Dialogue: Boom	More gain for a distant boom mic, 150 Hz high-pass, more presence, COMP on.
Interview: A Side	The close-mic voice placed to the left with a narrow spaced pair, COMP on.

Interview: B Side	The same voice placed to the right: use the pair on two voices for a natural two-hander.
Acoustic Guitar Pair	Placed left with 40 cm SPACING, a touch of air and less mud.
Piano Wide	Placed right of centre with the full 60 cm SPACING and a little air and weight.
Vocal Warm Push	GAIN +12 into the rail for transformer weight and squeeze, LEVEL down to match, COMP on.
Drum Room Pair	Pushed a little, panned well left with 60 cm SPACING, more air and weight, less boxiness.
Field Ambience	60 cm SPACING, 90 Hz high-pass and a touch of air for a wide outdoor bed.
Tired Batteries	GAIN +10 with DRIFT at 100 %: a sagging rail that squeezes the loud parts.

Tips

- Set GAIN so the O.L. lamp only flickers on the loudest moments for a clean sound; let it light for colour.
- For a voice that sounds harsh or shouty, try COMP before cutting MF: it only acts when the harsh band stands out.
- SPACING is easiest to hear on headphones with PAN well off centre; check the mono fold-down: it stays the same.
- Two instances on two mics, one at A and one at B with the same SPACING, make a natural stereo pair from two mono sources.
- OBQ-1 processes channels 1 and 2; with OS at 2x or 4x it reports its latency to REAPER so the project stays in time.

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