

# Specifications for Power Stabilization Amplifier Intended for use with the NPRO-PSL

A. Abramovici, R. Savage, May 2, 1996

**LIGO-E960045-00-D**

## 1. General

- Single-width NIM module, labeled *PS AMP, NPRO-PSL*
- All controls on front panel
- Floating BNC connectors, unless otherwise stated

## 2. Input

- DC coupled
- BNC connector on front panel, labeled *PD IN*
- Input impedance,  $R_i \geq 1000 \Omega$
- DC offset zero correction using 10-turn linear pot accessible through front panel. Pot mid-range corresponds to 0.0 V offset correction.
- DC offset drift less than 10  $\mu\text{V}$  p.t.p. between 15°C and 25°C, input-referred.
- Input-referred noise  $\leq 30 \text{ nV}/\sqrt{\text{Hz}}$ , 100 Hz-100 kHz

## 3. Output

- Two BNC connectors in parallel, one on front panel, one on back panel, both labeled *OUTPUT* or *OUT*
- Output resistance  $R_0 \leq 10 \Omega$
- Output range  $\pm 10 \text{ V}$
- Line-related spikes  $\leq 100 \text{ nV rms}$ , input-referred

## 4. Gain

- DC gain  $500 \pm 10\%$
- Gain adjustment range 5 to 500 by 10-turn logarithmic pot with lockable dial, labeled *GAIN*

## 5. Poles and Zeros

- Two poles at 1 kHz  $\pm 10\%$
- Two zeros at 4 kHz  $\pm 10\%$

# Specifications for Power Sampling PD Bias Supply Intended for use with the NPRO-PSL

A. Abramovici, R. Savage, May 2, 1996

**LIGO-E960048-00-D**

## **1. General**

- Single-width NIM module, labeled *PS PD BIAS, NPRO-PSL*

## **2. Output**

- $-60\text{ V} \pm 10\%$ , 10 mA
- Two BNC connectors in parallel, one on front panel, one on back panel, both labeled  $-60\text{ V OUT}$
- Line-related spikes compatible with Power Sampling Photodetector output noise level specifications (refer to LIGO-E960042-00-D).