



# 25 winners in our collection of op art

nobody, but nobody makes more discrete op amps than Philbrick/Nexus

Philbrick/Nexus is avant-garde in operational amplifiers. Covers the spectrum of op amp capabilities — from mini-cost to maxi-performance. Standard products, as well as mixed products, match your needs economically. Use them. They'll color you bright. Op art masterpieces like these are but a few of the total Philbrick/Nexus exhibit:

## Economy Grade

SQ-10A — MINI-PRICED, but a top performer in general purpose applications. Only \$10.50 each in hundred quantities.

QFT-5 — LOWEST PRICED FET. General-purpose performance, low leakage. Only \$15 each by the hundred.

1009 — LOW COST, HIGH PERFORMANCE FET. Input impedance  $10^{12}$  ohms. Input bias current 5 pA. Priced at \$20.50 each in quantities of 100.

## General Purpose

CIA-2 — LOW PROFILE, HIGH PERFORMANCE. Thick-film hybrid, 80,000 gain,  $\pm 5\mu\text{V}/^\circ\text{C}$  input voltage offset.

SQ16 — HIGH PERFORMANCE. Gain 150,000,  $\pm 5\text{mA}$  guaranteed minimum output at  $\pm 11$  volts. Low noise,  $1\mu\text{V}$  rms broadband.

Q102A — ULTRA-HIGH PERFORMANCE. Gain 200,000,  $\pm 2\mu\text{V}/^\circ\text{C}$  input voltage offset typical at  $-25$  to  $+85^\circ\text{C}$ . Internally trimmed to 0.5mV max.

QFT-2 — TOP-GRADE PERFORMER. Gain 200,000, slew rate  $10\text{V}/\mu\text{sec}$ , 10 pA input bias current.

Q103A — HIGH INPUT IMPEDANCE, LOW BIAS CURRENT. Input voltage offset  $\pm 2\mu\text{V}/^\circ\text{C}$ . Only \$25.50 each by the hundred.

## High Reliability

Q10A — ALL-PURPOSE TOP-GRADE.  $-55^\circ\text{C}$  to  $100^\circ\text{C}$  operating temperature range.

P65A — PREMIUM GRADE. Wide application usage, proven performance, low broadband noise  $1\mu\text{V}$ .

CDA-3A — PROVEN PERFORMANCE. Input bias current 1nA, differential input resistance 2 megohms.

Q25AH — WIDEBAND FET HYBRID. 600,000 hours of operation with no failures. Small size TO-8 package, hermetically sealed.

## Wide Band

PP45U — 100 MHz BANDWIDTH. Slew rate  $200\text{V}/\mu\text{sec}$ . Excellent for broadband inverter applications.

1016 — FAST, HIGH POWER.  $f_p > 1$  MHz. Full output of  $\pm 10\text{V}$ ,  $\pm 100$  mA to 1 MHz. CMRR 100,000.  $E_{os}$  T.C. is  $10\mu\text{V}/^\circ\text{C}$ .  $A_o$  at 750,000.

1011 — LOW PROFILE, FAST SETTLING TIME FET. 15 MHz bandwidth, slew rate  $70\text{V}/\mu\text{sec}$ . Delivers  $\pm 11.5\text{V}$  output. Settles in 1.5  $\mu\text{sec}$  to .01%, 0.4 inches high max.

## Universal

ESL-1 — WIDE SUPPLY VOLTAGE RANGE,  $\pm 8$  to  $\pm 16\text{V}$ . CMRR 1,000,000:1, common mode input resistance 1.5 G ohms.

USL-1C — HIGH STABILITY. Wide range of supply voltages from  $\pm 8$  to  $\pm 26\text{V}$ . Input voltage offset  $\pm 1\mu\text{V}/^\circ\text{C}$ . Low drift.

## High Voltage

MLF-100 —  $\pm 100$  VOLT OUTPUT at 10mA. FET input amplifier. Short circuit protected.

## Micro-Power / Low Voltage

Q-200A — BATTERY OPERATED.  $\pm 50\mu\text{A}$  quiescent drain. Ideal for OEM battery operated and airborne instrumentation.

1402 — MICROCIRCUIT FET HYBRID. Bias current 5pA. Input impedance  $10^{12}$  ohms. Output  $\pm 14\text{V}$ ,  $\pm 5\text{mA}$ . Supply voltage from  $\pm 4$  to  $\pm 24\text{V}$ . Quiescent current  $\pm 0.5\text{mA}$ . In TO-8 case, hermetically sealed.

## High Performance

1003 — LOW-NOISE FET. 3,000,000:1 CMRR  $\pm 1\mu\text{V}/^\circ\text{C}$  input offset voltage  $+10^\circ\text{C}$  to  $+60^\circ\text{C}$ . Uses hermetically sealed active components.

1700 — LONG-TERM STABILITY. Input voltage offset  $\pm 0.15\mu\text{V}/^\circ\text{C}$ . Full output to 1.2 MHz. Gain  $10^9$ . Long-term stability .2 $\mu\text{V}$  per day.

1018 — ULTRA-LOW DRIFT. Gain 1.5 meg  $E_{os}$   $0.5\mu\text{V}/^\circ\text{C}$  and  $I_{bias}$  .02nA/ $^\circ\text{C}$ .

## Monolithic IC's

S-52 — LOW, LOW COST IC. Easy to stabilize. Dual in-line package. \$5 each in quantity.

T-52 — A REAL BUY. Same as S-52, but in TO-5 package. Same low price.

Your Best-Of-Show selection brings with it, at no extra cost and available nowhere else — unequalled integrity resulting from superb artistry in things analog. For other op amp prize winners, too numerous to mention, contact your Philbrick/Nexus sales representative for complete specifications, prices and applications assistance. Or write, Philbrick/Nexus Research, 35 Allied Drive at Route 128, Dedham, Massachusetts 02026.



PHILBRICK/NEXUS RESEARCH

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