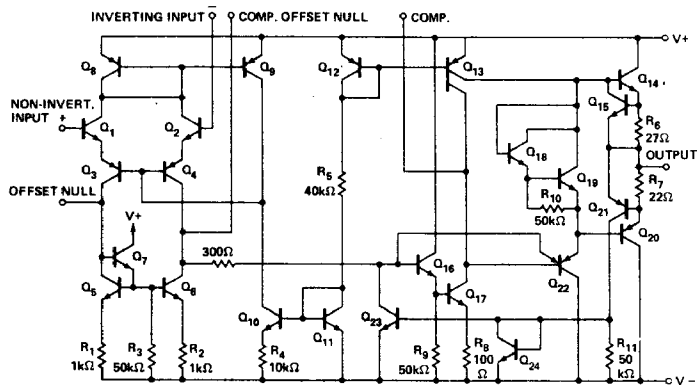


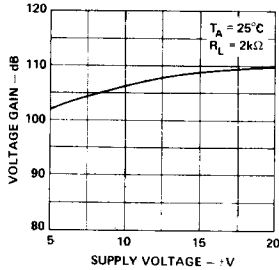
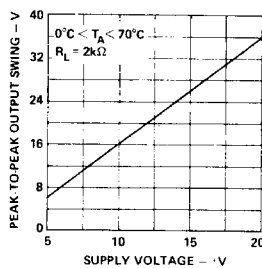
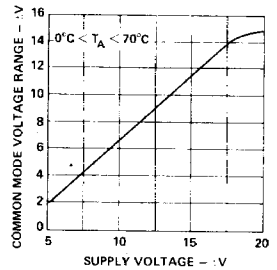
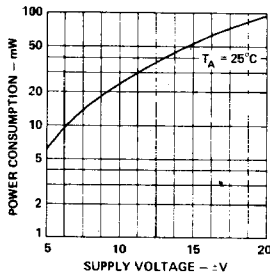
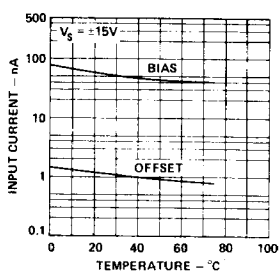
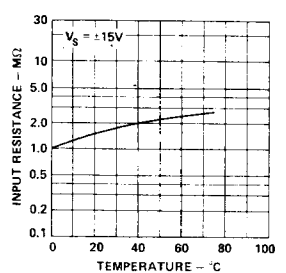
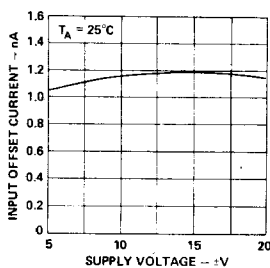
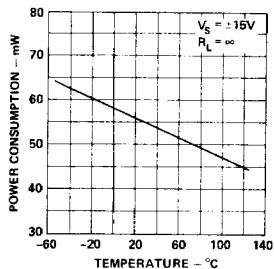
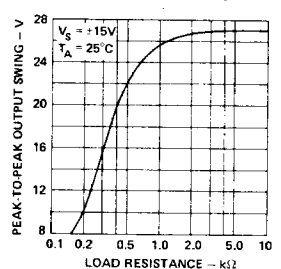
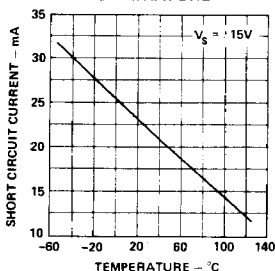
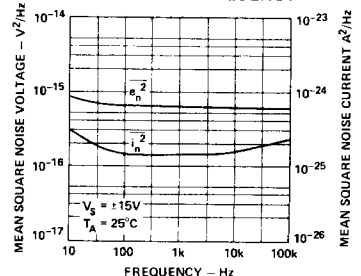


ELECTRICAL CHARACTERISTICS FOR μA777 ($V_S = \pm 15V$, $T_A = 25^\circ C$, $C_C = 30pF$ unless otherwise specified)

PARAMETERS		CONDITIONS	MIN	TYP	MAX	UNITS
Input Offset Voltage		$R_S \leq 50k\Omega$		0.7	5.0	mV
Input Offset Current				0.7	20.0	nA
Input Bias Current				25	100	nA
Input Resistance			1.0	2.0		MΩ
Input Capacitance				3.0		pF
Offset Voltage Adjustment Range				±25		mV
Large Signal Voltage Gain		$R_L \geq 2k\Omega$, $V_{OUT} = \pm 10V$	25,000	250,000		V/V
Output Resistance				100		Ω
Output Short Circuit Current				±25		mA
Supply Current				1.9	2.8	mA
Power Consumption				60	85	mW
Transient Response (Voltage Follower, Gain of 1)	Rise Time	$V_{IN} = 20mV$, $C_C = 30pF$ $R_L = 2k\Omega$, $C_L \leq 100pF$		0.3		μs
	Overshoot			5.0		%
Slew Rate (Voltage Follower, Gain of 1)		$R_L \geq 2k\Omega$		0.5		V/μs
Transient Response (Voltage Follower, Gain of 10)	Rise Time	$V_{IN} = 20mV$, $C_C = 3.5pF$ $R_L = 2k\Omega$, $C_L \leq 100pF$		0.3		μs
	Overshoot			5.0		%
Slew Rate (Voltage Follower, Gain of 10)		$R_L \leq 2k\Omega$, $C_C = 3.5pF$		5.5		V/μs
The following specifications apply over operating temperature range.						
Input Offset Voltage		$R_S \leq 50k\Omega$		0.8	5.0	mV
Average Input Offset Voltage Drift		$R_S \leq 50k\Omega$		4.0	30	μV/°C
Input Offset Current					40	nA
Average Input Offset Current Drift		$25^\circ C \leq T_A \leq +70^\circ C$ $0^\circ C \leq T_A \leq +25^\circ C$		0.01 0.02	10.3 0.6	nA/°C
Input Bias Current					200	nA
Input Voltage Range			±12	±13		V
Common Mode Rejection Ratio		$R_S \leq 50k\Omega$	70	95		dB
Supply Voltage Rejection Ratio		$R_S \leq 50k\Omega$		15	150	μV/V
Large Signal Voltage Gain		$R_L \geq 2k\Omega$, $V_{OUT} = \pm 10V$	15,000			V/V
Output Voltage Swing		$R_L \geq 10k\Omega$	±12	±14		V
		$R_L \geq 2k\Omega$	±10	±13		V
Power Consumption				60	100	mW

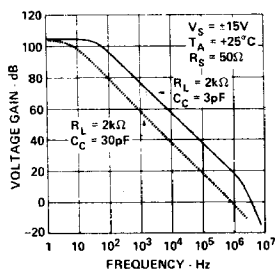
EQUIVALENT CIRCUIT



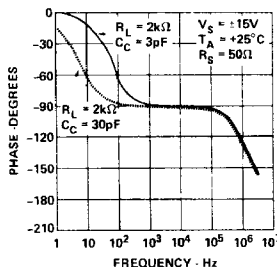
TYPICAL PERFORMANCE CURVES**OPEN LOOP VOLTAGE GAIN AS A FUNCTION OF SUPPLY VOLTAGE****OUTPUT VOLTAGE SWING AS A FUNCTION OF SUPPLY VOLTAGE****INPUT COMMON MODE VOLTAGE RANGE AS A FUNCTION OF SUPPLY VOLTAGE****POWER CONSUMPTION AS A FUNCTION OF SUPPLY VOLTAGE****INPUT CURRENT AS A FUNCTION OF AMBIENT TEMPERATURE****INPUT RESISTANCE AS A FUNCTION OF AMBIENT TEMPERATURE****INPUT OFFSET CURRENT AS A FUNCTION OF SUPPLY VOLTAGE****POWER CONSUMPTION AS A FUNCTION OF AMBIENT TEMPERATURE****OUTPUT VOLTAGE SWING AS A FUNCTION OF LOAD RESISTANCE****OUTPUT SHORT-CIRCUIT CURRENT AS A FUNCTION OF AMBIENT TEMPERATURE****INPUT NOISE VOLTAGE AND CURRENT AS A FUNCTION OF FREQUENCY**

TYPICAL PERFORMANCE CURVES

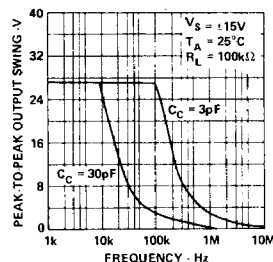
**OPEN LOOP VOLTAGE GAIN
AS A FUNCTION OF
FREQUENCY**



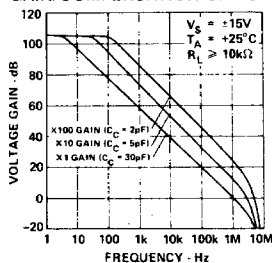
**OPEN LOOP PHASE
RESPONSE AS A
FUNCTION OF FREQUENCY**



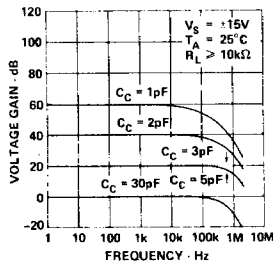
**OUTPUT VOLTAGE SWING
AS A FUNCTION OF
FREQUENCY**



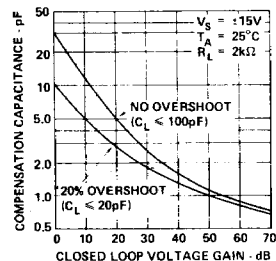
**OPEN LOOP VOLTAGE GAIN
AS A FUNCTION OF
FREQUENCY FOR VARIOUS
GAIN/COMPENSATION OPTIONS**



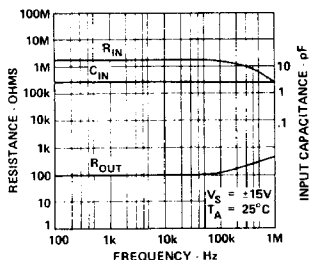
**FREQUENCY RESPONSE
FOR VARIOUS
CLOSED-LOOP GAINS**



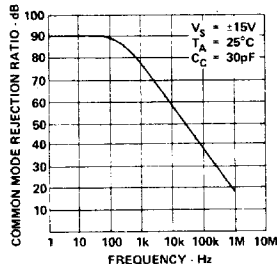
**COMPENSATION
CAPACITANCE AS A
FUNCTION OF CLOSED
LOOP VOLTAGE GAIN**



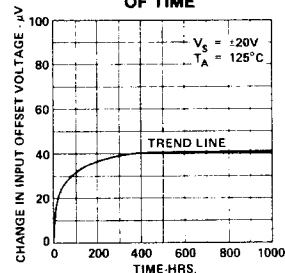
**INPUT RESISTANCE,
OUTPUT RESISTANCE,
AND INPUT CAPACITANCE
AS A FUNCTION OF FREQUENCY**



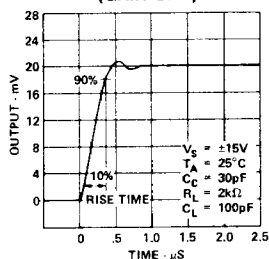
**COMMON MODE REJECTION
RATIO AS A FUNCTION OF
FREQUENCY**



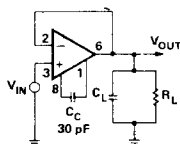
**INPUT OFFSET VOLTAGE
DRIFT AS A FUNCTION
OF TIME**



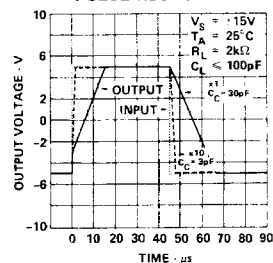
**VOLTAGE FOLLOWER
TRANSIENT RESPONSE
(GAIN OF 1)**



**TRANSIENT RESPONSE
TEST CIRCUIT**

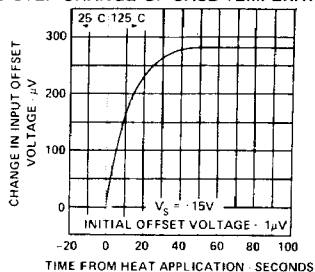


**VOLTAGE FOLLOWER
LARGE SIGNAL
PULSE RESPONSE**

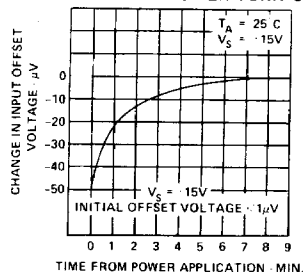


TYPICAL PERFORMANCE CURVES

THERMAL RESPONSE OF INPUT OFFSET VOLTAGE TO STEP CHANGE OF CASE TEMPERATURE

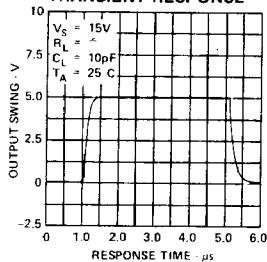
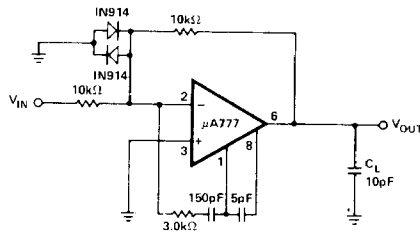


STABILIZATION TIME OF INPUT OFF-SET VOLTAGE FROM POWER TURN-ON

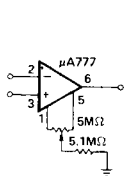


FEED FORWARD COMPENSATION

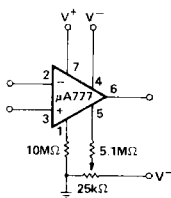
LARGE SIGNAL FEEDFORWARD TRANSIENT RESPONSE



VOLTAGE OFFSET NULL CIRCUIT

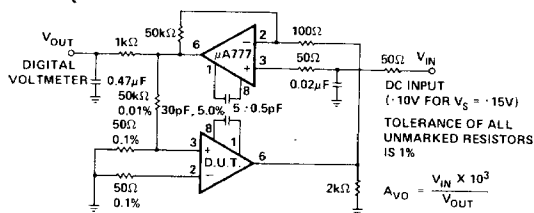


SUGGESTED



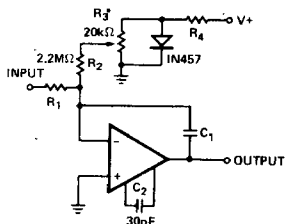
ALTERNATE

GAIN TEST CIRCUIT



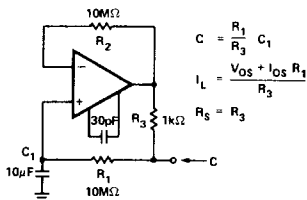
TYPICAL APPLICATIONS

BIAS COMPENSATED LONG TIME INTEGRATOR

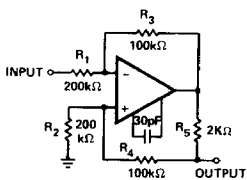


*ADJUST R_3 FOR MINIMUM INTEGRATOR DRIFT

CAPACITANCE MULTIPLIER

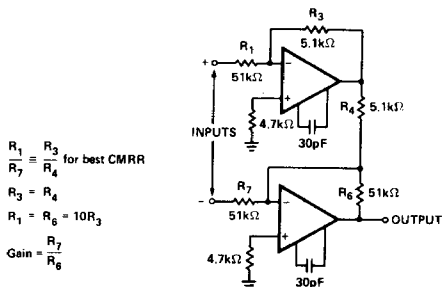


BILATERAL CURRENT SOURCE

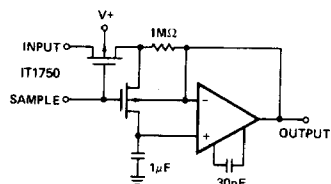


$$I_{OUT} = \frac{R_3 V_{IN}}{R_1 R_5} \quad R_1 = R_2; R_3 = R_4 + R_5$$

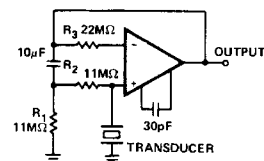
±100V COMMON MODE RANGE INSTRUMENTATION AMPLIFIER



SAMPLE AND HOLD

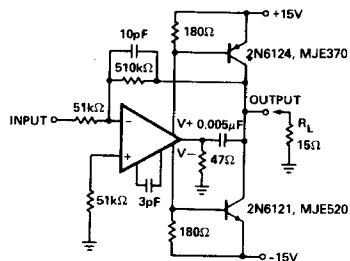


AMPLIFIER FOR CAPACITANCE TRANSDUCERS



LOW FREQUENCY CUTOFF $R_1 \times C_1$

HIGH SLEW RATE POWER AMPLIFIER



INSTRUMENTATION AMPLIFIER WITH HIGH COMMON MODE REJECTION

