

GENERAL DESCRIPTION

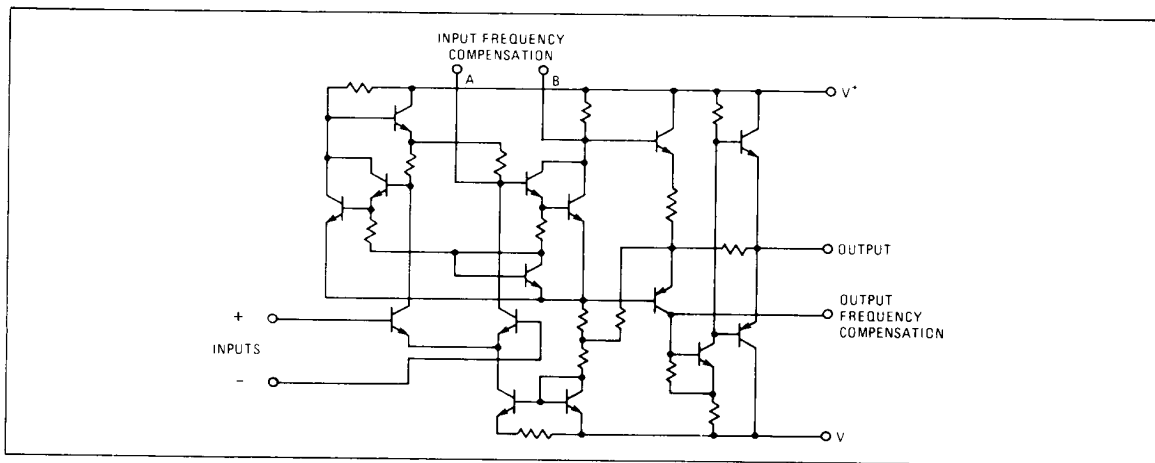
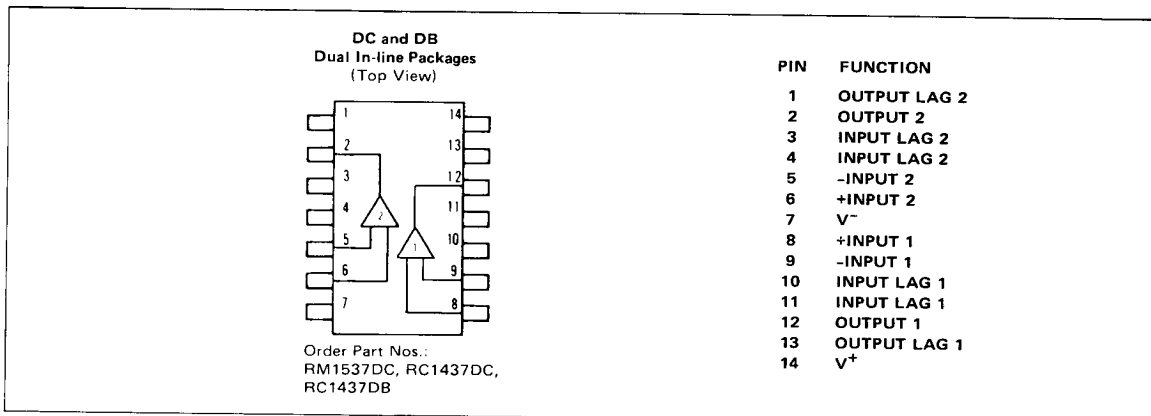
The RC1437 and RM1537, previously referred to as the 4709, integrated circuits are monolithic dual high gain operational amplifiers. The device is composed of two 709 operational amplifiers fabricated on a single silicon chip. It has all the outstanding features of the 709.

Due to the inherent matching and tracking of parameters, the 1537/1437 has several unique applications: differential in/out amplifiers, non-inverting amplifiers, gain and phase matched channels.

The RM1537 operates over a temperature range of -55°C to $+125^{\circ}\text{C}$. RC 1437 is the commercial temperature range device for operation from 0°C to $+75^{\circ}\text{C}$.

DESIGN FEATURES

- Gain and Phase Matching Between Amplifiers
- Low Temperature Drift $\pm 3 \mu\text{V}/^{\circ}\text{C}$
- Large Output Voltage Swing $\pm 14 \text{ V}$ Typical

SCHEMATIC DIAGRAM (1/2 Shown)**CONNECTION INFORMATION**

Dual High-Gain Operational Amplifiers

ABSOLUTE MAXIMUM RATINGS

Supply Voltage	±18 V	Operating Temperature Range . RM1537: -55°C to +125°C
Differential Mode Input Voltage	±5 V	RC1437: 0°C to +75°C
Common Mode Input Voltage	±V ₊	Storage Temperature Range -65°C to +150°C
Power Dissipation	500 mW	Lead Temperature (Soldering, 60s) 300°C
Derate above 75°C	5.0 mW/°C	Output Short Circuit Duration (25°C). 5 s

ELECTRICAL CHARACTERISTICS (RM1537: -55°C to +125°C; RC1437: 0°C to +75°C, unless otherwise noted)

PARAMETER	CONDITIONS	RM1537			RC1437			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	
Input Offset Voltage	50 Ω ≤ R _S ≤ 10 kΩ ±9V < V ⁺ < ±15V		1.0	5.0		1.0	7.5	mV
				6.0			10	
Input Offset Current	±9V < V ⁺ < ±15V		50	200		50	500	nA
	RM1537: +25°C to +125°C							
	RC1437: +25°C to +75°C							
	RM1537: -55°C			500			750	
	RC1437: 0°C							μA
Input Bias Current	±9V < V ⁺ < ±15V		0.2	0.5		0.4	1.5	
	RM1537: +25°C to +125°C							
	RC1437: +25°C to +75°C							
	RM1537: -55°C			1.5			2.0	
	RC1437: 0°C							kΩ
Input Resistance	±9V < V ⁺ < ±15V	150	400		50	150		
Output Resistance	±9V < V ⁺ < ±15V		150			150		Ω
Power Consumption	V ⁺ = ±15V, R _L = ∞		160	225		160	225	mW
Large Signal Voltage Gain	V ⁺ = ±15V, V ₀ = ±10V, R _L ≥ 2 kΩ	25	45	70	15	45		KV/V
Output Voltage Swing	V ⁺ = ±15V	±12	±14		±12	±14		V
	R _L ≥ 10 kΩ R _L ≥ 2 kΩ	±10	±13		±10	±13		
Input Common Mode Voltage	V ⁺ = ±15V	±8	±10		±8	±10		V
Common Mode Rejection Ratio	R _S ≤ 10 kΩ, ±9V < V ⁺ < ±15V	70	90		65	90		dB
Supply Voltage Rejection Ratio	R _S ≤ 10 kΩ, ±9V < V ⁺ < ±15V			150			200	μV/V
Transient Response	V ⁺ = ±15V, V _{in} = 20 mV, R _L = 2 kΩ, C ₁ = 5 nF, R ₁ = 1.5 kΩ, C ₂ = 200 pF, R ₂ = 50 Ω		0.3	1.0		0.3	1.0	μs
Rise Time				30			30	
Overshoot								%
Average Temperature Coefficient of Input Offset Voltage	±9V < V ⁺ < ±15V R _S = 50 Ω R _S = 10 kΩ		1.5			1.5		μV/°C
			3.0			3.0		
Average Temperature Coefficient of Input Offset Current	±9 < V ⁺ < ±15V		0.7			0.7		nA/°C
Channel Separation, f = 10 kHz	±9V < V ⁺ < ±15V		90			90		dB

MATCHING CHARACTERISTICS (T_A = 25°C, ±9V < V⁺ < ±15V unless otherwise noted)

PARAMETER	RM1537			RC1437			UNITS
	MIN	TYP	MAX	MIN	TYP	MAX	
Voltage Gain		±1.0			±1.0		dB
Input Bias Current		±100			±150		nA
Input Offset Current		±15			±20		nA
Input Offset Voltage		±0.5			±1.0		mV
Average Temperature Coefficient of Input Offset Voltage		±0.5			±0.5		μV/°C
Average Temperature Coefficient of Input Offset Current		±0.2			±0.2		nA/°C