

2. IC OPERATION OF EACH CIRCUIT AND PIN DESCRIPTION

2-1 Head amp (J25-4404-08)

2-1-1 Q103 (TA7731P) head amp

Q103 (TA7731P) is the head amp and operation IC for the laser beam receiver device, developed for CD system DAD player.

Pin connection diagram

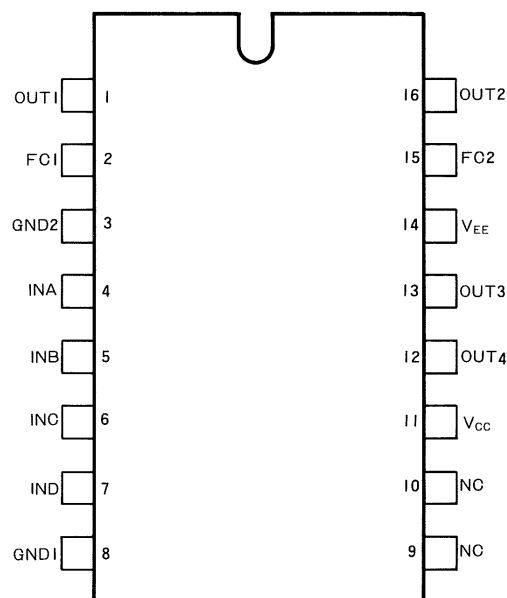


Fig. 2-1A

Block diagram

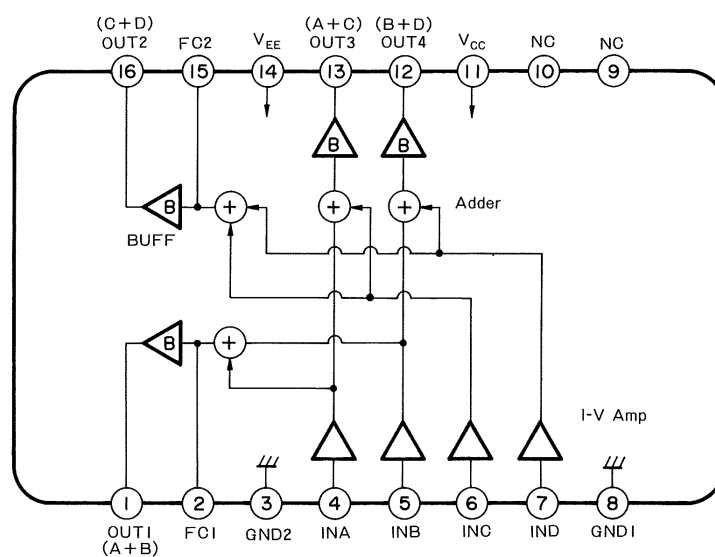


Fig. 2-1B

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Pin functions

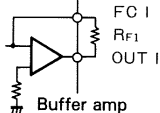
Pin No.	Symbol	Description	Remarks
1	OUT1	Pin which outputs the sum signal (A + B) of pin IN A and IN B input signals out of 4-division photodetector outputs. The final stage buffer amp is provided with an external feedback resistance to neutralize the effect of the irregularity in characteristics between photodiodes.	 <p>Buffer amp</p> <p>Note 1 With max. input of 100 kHz ...Transfer impedance = 27 kΩ R_{F1} = 9 kΩ (typical)</p>
2	FC1	Final stage buffer amp negative input pin of OUT1 output signal. A resistance is connected between this pin and pin OUT1 to control the gain.	
3	GND2	GND pin	
4	IN A	Input pin of signal A (one of 4-division photodetector outputs)	Note 1
5	IN B	Input pin of signal B (one of 4-division photodetector outputs)	
6	IN C	Input pin of signal C (one of 4-division photodetector outputs)	
7	IN D	Input pin of signal D (one of 4-division photodetector outputs)	
8	GND1	GND pin	
9-10	NC	Not connected	
11	V _{cc}	Positive supply voltage pin	
12	OUT4	Pin which outputs the sum signal (B + D) of pin IN B and IN D input signals out of 4-division photodetector outputs.	<p>Note 1 With max. input of 100 kHz ...Transfer impedance = 27 kΩ (typical)</p>
13	OUT3	Pin which outputs the sum signal (A + C) of pin IN A and IN C input signals out of 4-division photodetector outputs.	
14	V _{EE}	Negative supply voltage pin	
15	FC2	Final stage buffer amp negative input pin of OUT2 output signal. A resistance (for feedback) is connected between this pin and pin OUT2 to control the gain.	

Table 2-1A

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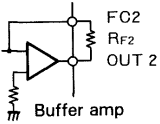
Pin No.	Symbol	Description	Remarks
16	OUT2	<p>Pin which outputs the sum signal (C + D) of pin IN C and IN D input signals out of 4-division photodetector outputs.</p> <p>The final stage buffer amp is provided with an external feedback resistance to neutralize the effect of the irregularity in characteristics between photodiodes.</p>	 <p>Buffer amp</p> <p>Note 1 With max. input of 100 kHz ... Transfer impedance = 27 kΩ R_{F1} = 9kΩ</p>

Table 2-1A

Note 1: 4-division photodetector configuration

