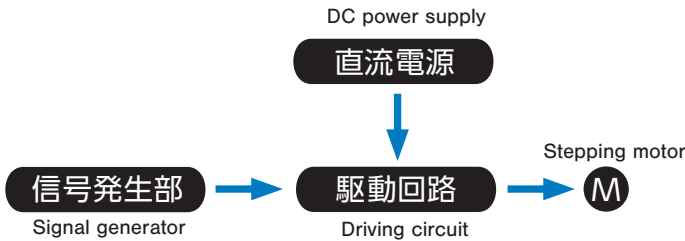
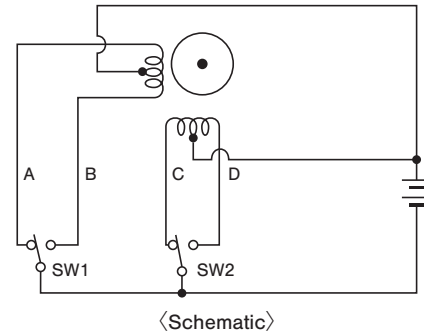


駆動回路構成  
Driving circuit configuration



励磁方式とシーケンス  
Excitation and sequence



## ● 1 相励磁方式

常に1つの相だけ励磁する方式で、入力が少なく温度上昇も低く、電源が小さくて済みます。しかしステップした時の減衰振動が大きく乱調を生じ易い欠点があります。(Fig. 1、2)

	SW1		SW2	
	A	B	C	D
1	ON			
2			ON	
3		ON		
4				ON
1	ON			

Fig. 1

## ● 2 相励磁方式

常に2つの相を励磁する方式で、相切換え時も必ず1つの相が励磁されているので動作時に制動効果があり、又起動トルクが必ず与えられますので、乱調を減じ又自起動周波数を高めることができます。入力は1相励磁方式に対して2倍になります。(Fig. 3、4)

	SW1		SW2	
	A	B	C	D
1	ON		ON	
2		ON	ON	
3		ON		ON
4	ON			ON
1	ON		ON	

Fig. 3

## ● 1 phase exciting method

This method performs constant excitation of one phase only. The input is small and little temperature increase occurs, so a small power supply is sufficient. The attenuation vibration for each step, however, is large, so hunting can occur easily. (Refer to Fig. 1, 2)

### シーケンス Sequence

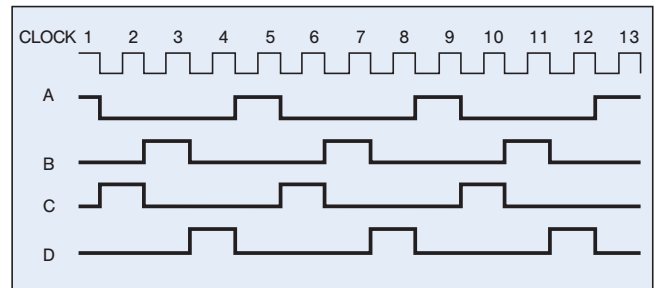


Fig. 2

## ● 2 phase exciting method

This method performs constant exciting of two phases, and one phase is always exciting during phase switch-over. This results in braking effects during operation, and starting torque is always applied, so hunting decreases and the self starting frequency can be increased. The input is twice that of the 1 phase exciting method. (Refer to Fig. 3, 4)

### シーケンス Sequence

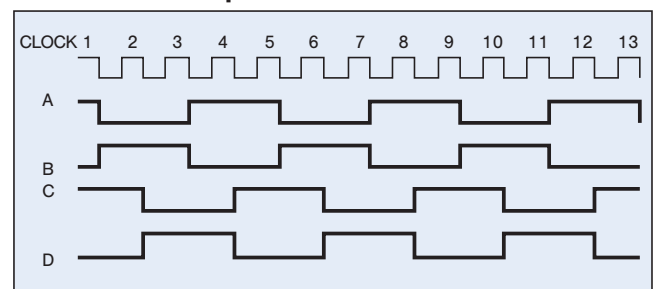


Fig. 4

# DRIVING CIRCUIT

## STEPPING MOTORS

### ● 1- 2相励磁方式

1相励磁方式と2相励磁方式を交互に行わせる方式で、角度偏位は、1相励磁、2相励磁の場合の1/2となります。応答周波数は約2倍となります。(Fig. 5、6)

	SW1		SW2	
	A	B	C	D
1	ON		ON	
2			ON	
3		ON	ON	
4		ON		
5		ON		ON
6				ON
7	ON			ON
8	ON			ON
1	ON		ON	

Fig. 5

### ● 1-2 phase exciting method

This method alternately performs the 1 phase excitation method and the 2 phases excitation method, with the angle deviation being half that of the 1 phase excitation method and the 2 phases excitation method. The response frequency is approximately double. (Refer to Fig. 5, 6)

### シーケンス Sequence

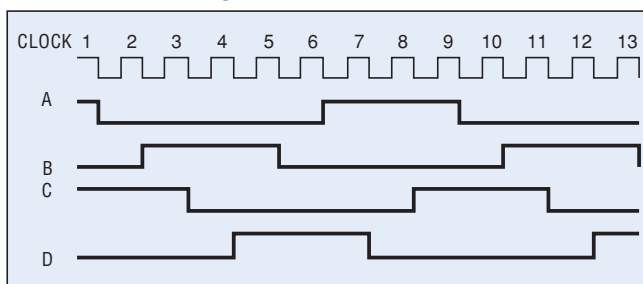


Fig. 6