

# 6. MAIN CIRCUIT EXPLANATIONS

Because the tone circuit is of the programming type, it can be used in many different ways. However, here is only explained how the circuit is used in the CX-3.

## 1. Tone circuit

IC-SM304A is a data processing IC designed for electronic organ applications.

Data from the 61 keys on the keyboard is converted from a parallel control signal into a series

control signal. After passing through the P/S (parallel-to-series) converter, the data is stored as D in the SR with storage of SM-305A and SM-305B.

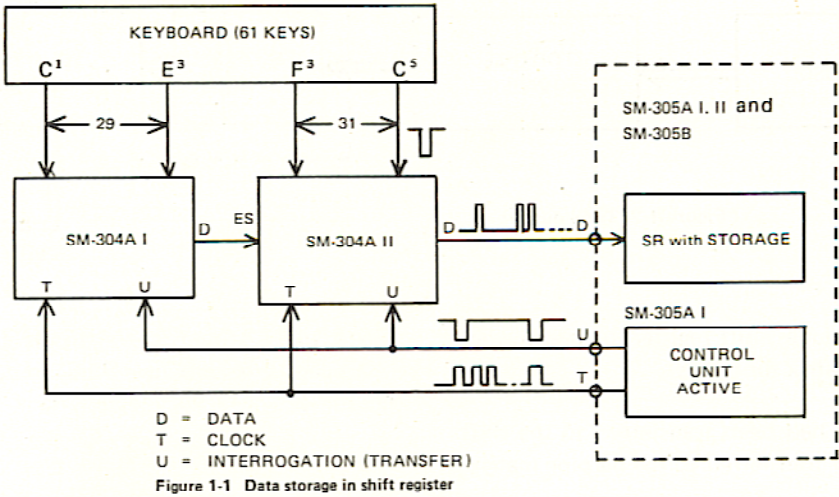


Figure 1-1 Data storage in shift register

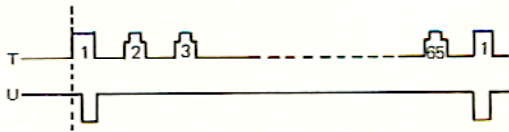


Chart 1-1 T & U timing

U = Simply speaking, the transfer pulse identifies the beginning of the series.

T = The clock pulse counts from 1 to 65 bits. 4 of those bits are for footage group programming and 61 bits are for keyboard programming. Refer to chart 1-2.

SM-305A	Programming bits				OS	Summing-out puts for programming					Footage group				
	PB1	PB2	PB3	PB4		S10'	S9	S6	S7	S8					
	H	H	H	H	RC or H	$\frac{VDD}{2}$					3				
	H	H	H	H	L						1				
SM-305B	Programming bits				P	Summing-outputs for programming									Footage group
	PB1	PB2	PB3	PB4		S40'	S46	S39	S45	S38	S36	S42	S43	S37	
	H	H	H	H	H	$\frac{VDD}{2}$									4
	ES	E1	E2	E3											
	Designation of programming bits for SM-304														

Chart 1-2 Programming

Chart 1-2 Programming