

Line	Source statement			
5	COPY	START	0	COPY FILE FROM INPUT TO OUTPUT
10	RDBUFF	MACRO	&INDEV, &BUFADR, &RECLTH	
15	.			
20	.	MACRO TO READ RECORD INTO BUFFER		
25	.			
30		CLEAR	X	CLEAR LOOP COUNTER
35		CLEAR	A	
40		CLEAR	S	
45		+LDT	#4096	SET MAXIMUM RECORD LENGTH
50		TD	=X'&INDEV'	TEST INPUT DEVICE
55		JEQ	*-3	LOOP UNTIL READY
60		RD	=X'&INDEV'	READ CHARACTER INTO REG A
65		COMPR	A, S	TEST FOR END OF RECORD
70		JEQ	*+11	EXIT LOOP IF EOR
75		STCH	&BUFADR, X	STORE CHARACTER IN BUFFER
80		TIXR	T	LOOP UNLESS MAXIMUM LENGTH
85		JLT	*-19	HAS BEEN REACHED
90		STX	&RECLTH	SAVE RECORD LENGTH
95		MEND		
100	WRBUFF	MACRO	&OUTDEV, &BUFADR, &RECLTH	
105	.			
110	.	MACRO TO WRITE RECORD FROM BUFFER		
115	.			
120		CLEAR	X	CLEAR LOOP COUNTER
125		LDT	&RECLTH	
130		LDCH	&BUFADR, X	GET CHARACTER FROM BUFFER
135		TD	=X'&OUTDEV'	TEST OUTPUT DEVICE
140		JEQ	*-3	LOOP UNTIL READY
145		WD	=X'&OUTDEV'	WRITE CHARACTER
150		TIXR	T	LOOP UNTIL ALL CHARACTERS
155		JLT	*-14	HAVE BEEN WRITTEN
160		MEND		
165	.			
170	.	MAIN PROGRAM		
175	.			
180	FIRST	STL	RETADR	SAVE RETURN ADDRESS
190	CLOOP	RDBUFF	F1, BUFFER, LENGTH READ RECORD INTO BUFFER	
195		LDA	LENGTH	TEST FOR END OF FILE
200		COMP	#0	
205		JEQ	ENDFIL	EXIT IF EOF FOUND
210		WRBUFF	05, BUFFER, LENGTH WRITE OUTPUT RECORD	
215		J	CLOOP	LOOP
220	ENDFIL	WRBUFF	05, EOF, THREE INSERT EOF MARKER	
225		J	@RETADR	
230	EOF	BYTE	C'EOF'	
235	THREE	WORD	3	
240	RETADR	RESW	1	
245	LENGTH	RESW	1 LENGTH OF RECORD	
250	BUFFER	RESE	4096 4096-BYTE BUFFER AREA	
255		END	FIRST	

Figure 4.1 Use of macros in a SIC/XE program.