Contents

Preface		ix
	PART I GENERALITIES	
1	Introduction	3
2	Cayley graphs (in general)	6
3	Trivalent Cayley graphs; the LCF and Frucht notations	9
4	General remarks on 0-symmetric graphs	17
	PART II GRAPHS OF TYPE ¹ Z	
5	General remarks on graphs of type ¹ Z	23
6	Zero-symmetric graphs of girth 3	27
7	The groups $Z(m,n,k)$	30
8	Graphs of type ¹ Z and girth 4 that are Cayley graphs of	
	groups $Z(m,2,k)$	35
9	Graphs of type ${}^{1}Z$ that are Cayley graphs of groups $Z(m,n,k)$, $n>2$	41
10	More 0-symmetric Cayley graphs of $Z(m,n,k)$ obtained by	
	change of generators	48
11	The juxtaposition procedure	51
12	The Cayley graphs of the groups $F^{3,2,-1}$ and $F^{4,2,1}$; the	
	extended LCF notation	54

PART III GRAPHS OF TYPE 3Z

13	The parameters of Cayley graphs of groups with three involutory generators	63
14	The companion graphs of Cayley graphs of girth 4	71
15	The Cayley graphs of Coxeter's groups $G^{p,q,r}$	74
16	A procedure for obtaining bipartite Cayley graphs of girth 4	84
17	The Cayley graphs of the groups $B(m,k)$	90
18	Cayley graphs of direct products of dihedral groups	101
19	More 0-symmetric graphs of girth 4 with 96 or 120 vertices	107
20	Companion graphs of higher girth	116
21	Preliminaries on Cayley graphs of girth 6 for dihedral and related groups	120
22	Cayley graphs of dihedral groups with one redundant generator	126
23	Cayley graphs of dihedral groups with no redundant generator	141
24	Cayley graphs of generalized dihedral groups	144
25	Yet another 0-symmetric graph with 96 vertices	153
	Tables	155
	Bibliography	165
Inde	x	169