

TECHNICAL REPORT

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Communication aids for blind persons — Identifiers, names and assignation to coded character sets for 8-dot Braille characters —

Part 1: General guidelines for Braille identifiers and shift marks

Aides à la communication pour personnes aveugles — Identificateurs, noms et attribution aux jeux de caractères codés pour caractères Braille à 8 points —

Partie 1: Lignes directrices générales pour les identificateurs Braille et marques de changement de caractères



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report. A Technical Report is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

Attention is drawn to the possibility that some of the elements of this part of ISO/TR 11548 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TR 11548-1 was prepared by Technical Committee ISO/TC 173, *Technical systems and aids for disabled or handicapped persons*.

ISO/TR 11548 consists of the following parts, under the general title *Communication aids for blind persons — Identifiers, names and assignation to coded character sets for 8-dot Braille characters*:

- *Part 1: General guidelines for Braille identifiers and shift marks*
- *Part 2: Latin alphabet based character sets*

Further parts may be developed to meet the needs of other languages, such as Arabic, Chinese, Japanese, etc.

Introduction

The objective of this Technical Report is, in addition to ISO/IEC 10646-1:2000 which encodes 8-dot Braille patterns, to assign semantics to 8-dot Braille patterns via mapping to other coded character sets. Their coding with the 8-bit code is determined in order to set guidelines for the manufacturing of compatible input and output equipment using the Braille system. This enables visually-impaired persons to interpret the output of data processing equipment and facilitates communication with sighted people.

This Technical Report is neither intended to create a new code nor to alter or modify existing 6-dot Braille systems.

As there are many different character sets used worldwide (e.g. Arabic, Chinese, Japanese, Latin) a corresponding number of reference tables is necessary. The standardization work started with defining general guidelines for Braille identifiers and shift marks as well as in creating the reference for Latin alphabet based character sets; further expansion to other character sets is encouraged.

Communication aids for blind persons — Identifiers, names and assignation to coded character sets for 8-dot Braille characters —

Part 1: General guidelines for Braille identifiers and shift marks

1 Scope

This part of ISO/TR 11548 specifies short identifiers for 8-dot Braille patterns in addition to the names specified in ISO/IEC 10646-1:2000.

As there are many different code tables in use dealing with various character sets (e.g. Arabic, Chinese, Japanese, Latin) and for special purposes (e.g. chemistry, mathematics and music notation), this part of ISO/TR 11548-1 also defines a method of shifting between various Braille tables.

This part of ISO/TR 11548 is intended to be used by users and manufacturers of 8-dot Braille input and output devices, interfaces and software for data exchange.

This part of ISO/TR 11548 does not apply to 6-dot Braille, and does not specify any physical dimension of Braille characters.

2 Terms and definitions

For the purposes of this part of ISO/TR 11548, the definitions given in ISO/IEC 10367 and the following apply.

2.1

Braille

writing system consisting of tactile dot combinations to be used by blind persons

2.2

6-dot Braille

dot combination arranged as follows:

1 • •4
2 • •5
3 • •6

2.3

8-dot Braille

dot combination arranged as follows:

1 • •4
2 • •5
3 • •6
7 • •8

2.4

Braille pattern

graphical or tactile representation of one of the 64 (for 6-dot Braille) or 256 (for 8-dot Braille) possible dot combinations without particular meaning assigned to any given pattern

2.5

Braille character

Braille pattern with its assigned meaning

2.6

code table

table showing the character allocated to each bit combination in a code

2.7

Braille table

table showing the Braille character allocated to each element of a code table

2.8

shift mark

control character indicating that one or more succeeding coded elements are to be interpreted for switching between different Braille tables

2.9

Braille identifier

set of four characters used to identify a Braille pattern

3 Braille pattern structure, identification and coding

3.1 Braille pattern structure

The dots of the Braille pattern will be assigned to digits 1 to 8 as follows:

1● ●4
2● ●5
3● ●6
7● ●8

The designation of dots 1 to 6 corresponds to that of 6-dot Braille. The additional dots 7 and 8 are added beneath.

NOTE In some 8-dot Braille character sets dots 7 and 8 are added above the 6-dot pattern. These are not subject of this Technical Report.

In ink-print representation of Braille patterns (Braille characters), a full circle corresponds to a tangible (set) dot while empty circles serve as position indicators for dots not set within the dot matrix. In addition to their ink-print representation, the Braille pattern is defined in Table 1 by indicating the designation digits of the required (tangible) dots.

3.2 Universal multiple-Octet Coded Character Set (UCS)

Within the Universal Multiple-Octet Coded Character Set (UCS) according to ISO/IEC 10646-1, the 256 Braille patterns have been encoded in the Basic Multilingual Plane at code positions U+2800 to U+28FF (see Annex A).

The Braille pattern for each UCS-character is directly derived from the character code, as follows: subtract 2800₁₆ from the character code. If bit 0 is 1, then dot 1 is black (raised); if bit 1 is 1, then dot 2 is black (raised); and so on. The Braille pattern at U+2800 is blank.

The name of the blank pattern is “BRAILLE PATTERN BLANK”. The names of the remaining patterns are “BRAILLE PATTERN DOTS-numbers”, with *numbers* replaced by the sequence of dot numbers (in ascending order) which are black (raised).

3.3 Braille identifier

The 8-dot Braille patterns are identified by Braille identifiers. Braille identifiers begin with the designation letter B which is followed by a three-digit octal number. This octal number is calculated as follows. Values with octal representation corresponding to powers of 2 are assigned to the dots of the Braille pattern in the following way:

1	●	●	10
2	●	●	20
4	●	●	40
100	●	●	200

The octal number in question is obtained by adding the values corresponding to the tangible (set) dots. This sum lies between zero for no dot set (BRAILLE PATTERN BLANK) and 377, in the event that all 8 dots are set. Numbers smaller than 100 shall be expanded to three digits by inserting leading zeroes.

EXAMPLE The Braille identifier of the Braille pattern with dots 1, 2, 4 and 7 set, which leads to octal values 1, 2, 10 and 100, the sum of which is 113, is B113.

The following table gives a comprehensive overview of Braille patterns listed according to their Braille identifiers, location in UCS according ISO/IEC 10646-1, the Braille pattern, dot combinations in digits (dots) and the name assigned by ISO/IEC 10646-1.

Table 1 — 8-dot Braille patterns

Braille Identifier	UCS location G=00 P=00 Row 28		Braille pattern	Dots	Name
	dec	hex			
B000	000	00	○○ ○○ ○○ ○○	—	BRAILLE PATTERN BLANK
B001	001	01	●○ ○○ ○○ ○○	1	BRAILLE PATTERN DOTS-1
B002	002	02	○○ ●● ○○ ○○	2	BRAILLE PATTERN DOTS-2
B003	003	03	●○ ●○ ○○ ○○	12	BRAILLE PATTERN DOTS-12
B004	004	04	○○ ○○ ●○ ○○	3	BRAILLE PATTERN DOTS-3
B005	005	05	●○ ○○ ●● ○○	13	BRAILLE PATTERN DOTS-13
B006	006	06	○○ ●● ○○ ○○	23	BRAILLE PATTERN DOTS-23
B007	007	07	●○ ●○ ●○ ○○	123	BRAILLE PATTERN DOTS-123
B010	008	08	○● ○○ ○○	4	BRAILLE PATTERN DOTS-4
B011	009	09	●● ○○ ○○	14	BRAILLE PATTERN DOTS-14
B012	010	0A	○● ●● ○○	24	BRAILLE PATTERN DOTS-24
B013	011	0B	●● ○○ ○○	124	BRAILLE PATTERN DOTS-124
B014	012	0C	○● ○○ ○○	34	BRAILLE PATTERN DOTS-34
B015	013	0D	●● ○○ ●● ○○	134	BRAILLE PATTERN DOTS-134
B016	014	0E	○● ●● ○○	234	BRAILLE PATTERN DOTS-234
B017	015	0F	●● ●● ○○	1234	BRAILLE PATTERN DOTS-1234
B020	016	10	○○ ●● ○○	5	BRAILLE PATTERN DOTS-5
B021	017	11	●○ ●○ ○○	15	BRAILLE PATTERN DOTS-15
B022	018	12	○○ ●● ○○	25	BRAILLE PATTERN DOTS-25
B023	019	13	●○ ●○ ○○ ○○	125	BRAILLE PATTERN DOTS-125
B024	020	14	○○ ●● ○○ ○○	35	BRAILLE PATTERN DOTS-35
B025	021	15	●○ ●○ ○○ ○○	135	BRAILLE PATTERN DOTS-135
B026	022	16	○○ ●● ○○ ○○	235	BRAILLE PATTERN DOTS-235
B027	023	17	●○ ●● ○○ ○○	1235	BRAILLE PATTERN DOTS-1235

Table 1 (continued)

Braille Identifier	UCS location G=00 P=00 Row 28 dec hex		Braille pattern	Dots	Name
B030	024	18	○● ○○ ○○	45	BRAILLE PATTERN DOTS-45
B031	025	19	●● ○○ ○○	145	BRAILLE PATTERN DOTS-145
B032	026	1A	○● ●● ○○	245	BRAILLE PATTERN DOTS-245
B033	027	1B	●● ○○ ○○	1245	BRAILLE PATTERN DOTS-1245
B034	028	1C	○● ●● ○○	345	BRAILLE PATTERN DOTS-345
B035	029	1D	●● ○● ○○	1345	BRAILLE PATTERN DOTS-1345
B036	030	1E	○● ●● ○○	2345	BRAILLE PATTERN DOTS-2345
B037	031	1F	●● ●● ○○	12345	BRAILLE PATTERN DOTS-12345
B040	032	20	○○ ○● ○○	6	BRAILLE PATTERN DOTS-6
B041	033	21	●○ ○● ○○	16	BRAILLE PATTERN DOTS-16
B042	034	22	○○ ●● ○○	26	BRAILLE PATTERN DOTS-26
B043	035	23	●○ ●● ○○	126	BRAILLE PATTERN DOTS-126
B044	036	24	○○ ●● ○○	36	BRAILLE PATTERN DOTS-36
B045	037	25	●○ ○● ○○	136	BRAILLE PATTERN DOTS-136
B046	038	26	○○ ●● ○○	236	BRAILLE PATTERN DOTS-236
B047	039	27	●○ ●● ○○	1236	BRAILLE PATTERN DOTS-1236
B050	040	28	○○ ○● ○○	46	BRAILLE PATTERN DOTS-46
B051	041	29	●○ ○● ○○	146	BRAILLE PATTERN DOTS-146
B052	042	2A	○● ●● ○○	246	BRAILLE PATTERN DOTS-246
B053	043	2B	●● ○● ○○	1246	BRAILLE PATTERN DOTS-1246
B054	044	2C	○○ ●● ○○	346	BRAILLE PATTERN DOTS-346
B055	045	2D	●● ○● ○○	1346	BRAILLE PATTERN DOTS-1346
B056	046	2E	○● ●● ○○	2346	BRAILLE PATTERN DOTS-2346
B057	047	2F	●● ●● ○○	12346	BRAILLE PATTERN DOTS-12346

Table 1 (continued)

Braille Identifier	UCS location G=00 P=00 Row 28		Braille pattern	Dots	Name
	dec	hex			
B060	048	30	○○ ○●○ ○○○	56	BRAILLE PATTERN DOTS-56
B061	049	31	●○○ ○●○ ○○○	156	BRAILLE PATTERN DOTS-156
B062	050	32	○○ ●●○ ○○○	256	BRAILLE PATTERN DOTS-256
B063	051	33	●○○ ●●○ ○○○	1256	BRAILLE PATTERN DOTS-1256
B064	052	34	○○ ●●○ ○○○	356	BRAILLE PATTERN DOTS-356
B065	053	35	●○○ ●●○ ○○○	1356	BRAILLE PATTERN DOTS-1356
B066	054	36	○○ ●●○ ○○○	2356	BRAILLE PATTERN DOTS-2356
B067	055	37	●○○ ●●○ ○○○	12356	BRAILLE PATTERN DOTS-12356
B070	056	38	○○ ●●○ ○○○	456	BRAILLE PATTERN DOTS-456
B071	057	39	●○○ ●●○ ○○○	1456	BRAILLE PATTERN DOTS-1456
B072	058	3A	○○ ●●○ ○○○	2456	BRAILLE PATTERN DOTS-2456
B073	059	3B	●●○ ●●○ ○○○	12456	BRAILLE PATTERN DOTS-12456
B074	060	3C	○○ ●●○ ○○○	3456	BRAILLE PATTERN DOTS-3456
B075	061	3D	●●○ ●●○ ○○○	13456	BRAILLE PATTERN DOTS-13456
B076	062	3E	○○ ●●○ ○○○	23456	BRAILLE PATTERN DOTS-23456
B077	063	3F	●●○ ●●○ ○○○	123456	BRAILLE PATTERN DOTS-123456
B100	064	40	○○ ○○○ ●○○	7	BRAILLE PATTERN DOTS-7
B101	065	41	●○○ ○○○ ●○○	17	BRAILLE PATTERN DOTS-17
B102	066	42	○○ ●○○ ●○○	27	BRAILLE PATTERN DOTS-27
B103	067	43	●○○ ●○○ ●○○	127	BRAILLE PATTERN DOTS-127
B104	068	44	○○ ○○○ ●○○	37	BRAILLE PATTERN DOTS-37
B105	069	45	●○○ ●○○ ●○○	137	BRAILLE PATTERN DOTS-137
B106	070	46	○○ ●○○ ●○○	237	BRAILLE PATTERN DOTS-237
B107	071	47	●○○ ●○○ ●○○	1237	BRAILLE PATTERN DOTS-1237

Table 1 (continued)

Braille Identifier	UCS location G=00 P=00 Row 28 dec hex		Braille pattern	Dots	Name
B110	072	48	○● ○○○ ●○○	47	BRAILLE PATTERN DOTS-47
B111	073	49	●● ○○○ ●○○	147	BRAILLE PATTERN DOTS-147
B112	074	4A	○● ○○○ ●○○	247	BRAILLE PATTERN DOTS-247
B113	075	4B	●● ○○○ ●○○	1247	BRAILLE PATTERN DOTS-1247
B114	076	4C	○● ○○○ ●○○	347	BRAILLE PATTERN DOTS-347
B115	077	4D	●● ○○○ ●○○	1347	BRAILLE PATTERN DOTS-1347
B116	078	4E	○● ○○○ ●○○	2347	BRAILLE PATTERN DOTS-2347
B117	079	4F	●● ○○○ ●○○	12347	BRAILLE PATTERN DOTS-12347
B120	080	50	○○ ○○○ ●○○	57	BRAILLE PATTERN DOTS-57
B121	081	51	●○ ○○○ ●○○	157	BRAILLE PATTERN DOTS-157
B122	082	52	○○ ○○○ ●○○	257	BRAILLE PATTERN DOTS-257
B123	083	53	●○ ○○○ ●○○	1257	BRAILLE PATTERN DOTS-1257
B124	084	54	○○ ○○○ ●○○	357	BRAILLE PATTERN DOTS-357
B125	085	55	●○ ○○○ ●○○	1357	BRAILLE PATTERN DOTS-1357
B126	086	56	○○ ○○○ ●○○	2357	BRAILLE PATTERN DOTS-2357
B127	087	57	●○ ○○○ ●○○	12357	BRAILLE PATTERN DOTS-12357
B130	088	58	○○ ○○○ ●○○	457	BRAILLE PATTERN DOTS-457
B131	089	59	●○ ○○○ ●○○	1457	BRAILLE PATTERN DOTS-1457
B132	090	5A	○○ ○○○ ●○○	2457	BRAILLE PATTERN DOTS-2457
B133	091	5B	●○ ○○○ ●○○	12457	BRAILLE PATTERN DOTS-12457
B134	092	5C	○○ ○○○ ●○○	3457	BRAILLE PATTERN DOTS-3457
B135	093	5D	●○ ○○○ ●○○	13457	BRAILLE PATTERN DOTS-13457
B136	094	5E	○○ ○○○ ●○○	23457	BRAILLE PATTERN DOTS-23457
B137	095	5F	●○ ○○○ ●○○	123457	BRAILLE PATTERN DOTS-123457

Table 1 (continued)

Braille Identifier	UCS location G=00 P=00 Row 28		Braille pattern	Dots	Name
	dec	hex			
B140	096	60	○○ ○● ●○	67	BRAILLE PATTERN DOTS-67
B141	097	61	○○ ○● ●○	167	BRAILLE PATTERN DOTS-167
B142	098	62	○○ ○● ●○	267	BRAILLE PATTERN DOTS-267
B143	099	63	○○ ○● ●○	1267	BRAILLE PATTERN DOTS-1267
B144	100	64	○○ ○● ●○	367	BRAILLE PATTERN DOTS-367
B145	101	65	○○ ○● ●○	1367	BRAILLE PATTERN DOTS-1367
B146	102	66	○○ ○● ●○	2367	BRAILLE PATTERN DOTS-2367
B147	103	67	○○ ○● ●○	12367	BRAILLE PATTERN DOTS-12367
B150	104	68	○○ ○● ●○	467	BRAILLE PATTERN DOTS-467
B151	105	69	○○ ○● ●○	1467	BRAILLE PATTERN DOTS-1467
B152	106	6A	○○ ○● ●○	2467	BRAILLE PATTERN DOTS-2467
B153	107	6B	○○ ○● ●○	12467	BRAILLE PATTERN DOTS-12467
B154	108	6C	○○ ○● ●○	3467	BRAILLE PATTERN DOTS-3467
B155	109	6D	○○ ○● ●○	13467	BRAILLE PATTERN DOTS-13467
B156	110	6E	○○ ○● ●○	23467	BRAILLE PATTERN DOTS-23467
B157	111	6F	○○ ○● ●○	123467	BRAILLE PATTERN DOTS-123467
B160	112	70	○○ ○● ●○	567	BRAILLE PATTERN DOTS-567
B161	113	71	○○ ○● ●○	1567	BRAILLE PATTERN DOTS-1567
B162	114	72	○○ ○● ●○	2567	BRAILLE PATTERN DOTS-2567
B163	115	73	○○ ○● ●○	12567	BRAILLE PATTERN DOTS-12567
B164	116	74	○○ ○● ●○	3567	BRAILLE PATTERN DOTS-3567
B165	117	75	○○ ○● ●○	13567	BRAILLE PATTERN DOTS-13567
B166	118	76	○○ ○● ●○	23567	BRAILLE PATTERN DOTS-23567
B167	119	77	○○ ○● ●○	123567	BRAILLE PATTERN DOTS-123567

.....,.....,.....,.....,.....,.....

Table 1 (continued)

Braille Identifier	UCS location G=00 P=00 Row 28 dec hex		Braille pattern	Dots	Name
B170	120	78	○● ○○● ●○○	4567	BRAILLE PATTERN DOTS-4567
B171	121	79	○● ○○● ●○○	14567	BRAILLE PATTERN DOTS-14567
B172	122	7A	○● ○○● ●○○	24567	BRAILLE PATTERN DOTS-24567
B173	123	7B	●● ○●○ ○○●	124567	BRAILLE PATTERN DOTS-124567
B174	124	7C	○● ○○● ●○○	34567	BRAILLE PATTERN DOTS-34567
B175	125	7D	●● ○●○ ○○●	134567	BRAILLE PATTERN DOTS-134567
B176	126	7E	○● ○○● ●○○	234567	BRAILLE PATTERN DOTS-234567
B177	127	7F	●● ●○○ ○○●	1234567	BRAILLE PATTERN DOTS-1234567
B200	128	80	○○ ○○○ ○●○	8	BRAILLE PATTERN DOTS-8
B201	129	81	●○ ○○○ ○●○	18	BRAILLE PATTERN DOTS-18
B202	130	82	○○ ○○○ ○●○	28	BRAILLE PATTERN DOTS-28
B203	131	83	●○ ○○○ ○●○	128	BRAILLE PATTERN DOTS-128
B204	132	84	○○ ○○○ ○●○	38	BRAILLE PATTERN DOTS-38
B205	133	85	●○ ○○○ ○●○	138	BRAILLE PATTERN DOTS-138
B206	134	86	○○ ○○○ ●○○	238	BRAILLE PATTERN DOTS-238
B207	135	87	●○ ○○○ ●○○	1238	BRAILLE PATTERN DOTS-1238
B210	136	88	○○ ○○○ ○●○	48	BRAILLE PATTERN DOTS-48
B211	137	89	●○ ○○○ ○●○	148	BRAILLE PATTERN DOTS-148
B212	138	8A	○○ ○○○ ○●○	248	BRAILLE PATTERN DOTS-248
B213	139	8B	●○ ○○○ ○●○	1248	BRAILLE PATTERN DOTS-1248
B214	140	8C	○○ ○○○ ○●○	348	BRAILLE PATTERN DOTS-348
B215	141	8D	●○ ○○○ ○●○	1348	BRAILLE PATTERN DOTS-1348
B216	142	8E	○● ○○○ ○●○	2348	BRAILLE PATTERN DOTS-2348
B217	143	8F	●● ○○○ ○●○	12348	BRAILLE PATTERN DOTS-12348

Table 1 (continued)

Braille Identifier	UCS location G=00 P=00 Row 28		Braille pattern	Dots	Name
	dec	hex			
B220	144	90	○○ ○● ○○ ○●	58	BRAILLE PATTERN DOTS-58
B221	145	91	●○ ●● ○○ ○●	158	BRAILLE PATTERN DOTS-158
B222	146	92	○○ ●● ○○ ○●	258	BRAILLE PATTERN DOTS-258
B223	147	93	●○ ●● ○○ ○●	1258	BRAILLE PATTERN DOTS-1258
B224	148	94	○○ ●● ○○ ○●	358	BRAILLE PATTERN DOTS-358
B225	149	95	●○ ●● ○○ ○●	1358	BRAILLE PATTERN DOTS-1358
B226	150	96	○○ ●● ○○ ○●	2358	BRAILLE PATTERN DOTS-2358
B227	151	97	●○ ●● ○○ ○●	12358	BRAILLE PATTERN DOTS-12358
B230	152	98	○○ ●● ○○ ○●	458	BRAILLE PATTERN DOTS-458
B231	153	99	●○ ●● ○○ ○●	1458	BRAILLE PATTERN DOTS-1458
B232	154	9A	○○ ●● ○○ ○●	2458	BRAILLE PATTERN DOTS-2458
B233	155	9B	●○ ●● ○○ ○●	12458	BRAILLE PATTERN DOTS-12458
B234	156	9C	○○ ●● ○○ ○●	3458	BRAILLE PATTERN DOTS-3458
B235	157	9D	●○ ●● ○○ ○●	13458	BRAILLE PATTERN DOTS-13458
B236	158	9E	○○ ●● ○○ ○●	23458	BRAILLE PATTERN DOTS-23458
B237	159	9F	●○ ●● ○○ ○●	123458	BRAILLE PATTERN DOTS-123458
B240	160	A0	○○ ●● ○○ ○●	68	BRAILLE PATTERN DOTS-68
B241	161	A1	●○ ●● ○○ ○●	168	BRAILLE PATTERN DOTS-168
B242	162	A2	○○ ●● ○○ ○●	268	BRAILLE PATTERN DOTS-268
B243	163	A3	●○ ●● ○○ ○●	1268	BRAILLE PATTERN DOTS-1268
B244	164	A4	○○ ●● ○○ ○●	368	BRAILLE PATTERN DOTS-368
B245	165	A5	●○ ●● ○○ ○●	1368	BRAILLE PATTERN DOTS-1368
B246	166	A6	○○ ●● ○○ ○●	2368	BRAILLE PATTERN DOTS-2368
B247	167	A7	●○ ●● ○○ ○●	12368	BRAILLE PATTERN DOTS-12368

Table 1 (continued)

Braille Identifier	UCS location G=00 P=00 Row 28 dec	UCS location G=00 P=00 Row 28 hex	Braille pattern	Dots	Name
B250	168	A8	○● ○○● ○●●	468	BRAILLE PATTERN DOTS-468
B251	169	A9	●○ ○○● ○●●	1468	BRAILLE PATTERN DOTS-1468
B252	170	AA	○○ ○●● ○●●	2468	BRAILLE PATTERN DOTS-2468
B253	171	AB	●● ○○● ○●●	12468	BRAILLE PATTERN DOTS-12468
B254	172	AC	○○ ●●● ○●●	3468	BRAILLE PATTERN DOTS-3468
B255	173	AD	●● ○○● ○●●	13468	BRAILLE PATTERN DOTS-13468
B256	174	AE	○○ ●●● ○●●	23468	BRAILLE PATTERN DOTS-23468
B257	175	AF	●● ●●● ○●●	123468	BRAILLE PATTERN DOTS-123468
B260	176	B0	○○ ○●● ○●●	568	BRAILLE PATTERN DOTS-568
B261	177	B1	●○ ○○● ○●●	1568	BRAILLE PATTERN DOTS-1568
B262	178	B2	○○ ●●● ○●●	2568	BRAILLE PATTERN DOTS-2568
B263	179	B3	●○ ○○● ○●●	12568	BRAILLE PATTERN DOTS-12568
B264	180	B4	○○ ●●● ○●●	3568	BRAILLE PATTERN DOTS-3568
B265	181	B5	●○ ○○● ○●●	13568	BRAILLE PATTERN DOTS-13568
B266	182	B6	○○ ●●● ○●●	23568	BRAILLE PATTERN DOTS-23568
B267	183	B7	●○ ●●● ○●●	123568	BRAILLE PATTERN DOTS-123568
B270	184	B8	○○ ●●● ○●●	4568	BRAILLE PATTERN DOTS-4568
B271	185	B9	●○ ○○● ○●●	14568	BRAILLE PATTERN DOTS-14568
B272	186	BA	○○ ●●● ○●●	24568	BRAILLE PATTERN DOTS-24568
B273	187	BB	●○ ○○● ○●●	124568	BRAILLE PATTERN DOTS-124568
B274	188	BC	○○ ●●● ○●●	34568	BRAILLE PATTERN DOTS-34568
B275	189	BD	●○ ○○● ○●●	134568	BRAILLE PATTERN DOTS-134568
B276	190	BE	○○ ●●● ○●●	234568	BRAILLE PATTERN DOTS-234568
B277	191	BF	●○ ●●● ○●●	1234568	BRAILLE PATTERN DOTS-1234568

Table 1 (continued)

Braille Identifier	UCS location G=00 P=00 Row 28		Braille pattern	Dots	Name
	dec	hex			
B300	192	C0	○○ ○○ ○○	78	BRAILLE PATTERN DOTS-78
B301	193	C1	●● ○○ ○○	178	BRAILLE PATTERN DOTS-178
B302	194	C2	○○ ○○ ●●	278	BRAILLE PATTERN DOTS-278
B303	195	C3	●● ○○ ●●	1278	BRAILLE PATTERN DOTS-1278
B304	196	C4	○○ ○○ ●●	378	BRAILLE PATTERN DOTS-378
B305	197	C5	●○ ○○ ●●	1378	BRAILLE PATTERN DOTS-1378
B306	198	C6	○○ ●○ ●○	2378	BRAILLE PATTERN DOTS-2378
B307	199	C7	●○ ●○ ●○	12378	BRAILLE PATTERN DOTS-12378
B310	200	C8	○○ ○○ ●●	478	BRAILLE PATTERN DOTS-478
B311	201	C9	●● ○○ ●●	1478	BRAILLE PATTERN DOTS-1478
B312	202	CA	○● ○○ ●●	2478	BRAILLE PATTERN DOTS-2478
B313	203	CB	●● ○○ ●●	12478	BRAILLE PATTERN DOTS-12478
B314	204	CC	○● ○○ ●●	3478	BRAILLE PATTERN DOTS-3478
B315	205	CD	●● ○○ ●●	13478	BRAILLE PATTERN DOTS-13478
B316	206	CE	○● ○○ ●●	23478	BRAILLE PATTERN DOTS-23478
B317	207	CF	●● ●○ ●○	123478	BRAILLE PATTERN DOTS-123478
B320	208	D0	○○ ○○ ●●	578	BRAILLE PATTERN DOTS-578
B321	209	D1	●○ ○○ ●●	1578	BRAILLE PATTERN DOTS-1578
B322	210	D2	○○ ●○ ●●	2578	BRAILLE PATTERN DOTS-2578
B323	211	D3	●○ ○○ ●●	12578	BRAILLE PATTERN DOTS-12578
B324	212	D4	○○ ●○ ●●	3578	BRAILLE PATTERN DOTS-3578
B325	213	D5	●○ ○○ ●●	13578	BRAILLE PATTERN DOTS-13578
B326	214	D6	○○ ●○ ●●	23578	BRAILLE PATTERN DOTS-23578
B327	215	D7	●○ ○○ ●●	123578	BRAILLE PATTERN DOTS-123578

Table 1 (continued)

Braille Identifier	UCS location G=00 P=00 Row 28 dec hex		Braille pattern	Dots	Name
B330	216	D8	○● ○○	4578	BRAILLE PATTERN DOTS-4578
B331	217	D9	○● ○○	14578	BRAILLE PATTERN DOTS-14578
B332	218	DA	○● ○○	24578	BRAILLE PATTERN DOTS-24578
B333	219	DB	○● ○○	124578	BRAILLE PATTERN DOTS-124578
B334	220	DC	○● ○○	34578	BRAILLE PATTERN DOTS-34578
B335	221	DD	○● ○○	134578	BRAILLE PATTERN DOTS-134578
B336	222	DE	○● ○○	234578	BRAILLE PATTERN DOTS-234578
B337	223	DF	○● ○○	1234578	BRAILLE PATTERN DOTS-1234578
B340	224	E0	○○ ○○	678	BRAILLE PATTERN DOTS-678
B341	225	E1	○○ ○●	1678	BRAILLE PATTERN DOTS-1678
B342	226	E2	○○ ○●	2678	BRAILLE PATTERN DOTS-2678
B343	227	E3	○○ ○●	12678	BRAILLE PATTERN DOTS-12678
B344	228	E4	○○ ○●	3678	BRAILLE PATTERN DOTS-3678
B345	229	E5	○○ ○●	13678	BRAILLE PATTERN DOTS-13678
B346	230	E6	○○ ○●	23678	BRAILLE PATTERN DOTS-23678
B347	231	E7	○○ ○●	123678	BRAILLE PATTERN DOTS-123678
B350	232	E8	○○ ○●	4678	BRAILLE PATTERN DOTS-4678
B351	233	E9	○○ ○●	14678	BRAILLE PATTERN DOTS-14678
B352	234	EA	○○ ○●	24678	BRAILLE PATTERN DOTS-24678
B353	235	EB	○○ ○●	124678	BRAILLE PATTERN DOTS-124678
B354	236	EC	○○ ○●	34678	BRAILLE PATTERN DOTS-34678
B355	237	ED	○○ ○●	134678	BRAILLE PATTERN DOTS-134678
B356	238	EE	○○ ○●	234678	BRAILLE PATTERN DOTS-234678
B357	239	EF	○○ ○●	1234678	BRAILLE PATTERN DOTS-1234678

Table 1 (continued)

Braille Identifier	UCS location G=00 P=00 Row 28		Braille pattern	Dots	Name
	dec	hex			
B360	240	F0	○○ ○● ●●	5678	BRAILLE PATTERN DOTS-5678
B361	241	F1	●○ ○○ ●●	15678	BRAILLE PATTERN DOTS-15678
B362	242	F2	○○ ●○ ●●	25678	BRAILLE PATTERN DOTS-25678
B363	243	F3	●○ ○○ ●●	125678	BRAILLE PATTERN DOTS-125678
B364	244	F4	○○ ●○ ●●	35678	BRAILLE PATTERN DOTS-35678
B365	245	F5	●○ ○○ ●●	135678	BRAILLE PATTERN DOTS-135678
B366	246	F6	○○ ●○ ●●	235678	BRAILLE PATTERN DOTS-235678
B367	247	F7	●○ ●○ ●●	1235678	BRAILLE PATTERN DOTS-1235678
B370	248	F8	○○ ●○ ●●	45678	BRAILLE PATTERN DOTS-45678
B371	249	F9	●○ ○○ ●●	145678	BRAILLE PATTERN DOTS-145678
B372	250	FA	○○ ●○ ●●	245678	BRAILLE PATTERN DOTS-245678
B373	251	FB	●○ ○○ ●●	1245678	BRAILLE PATTERN DOTS-1245678
B374	252	FC	○○ ●○ ●●	345678	BRAILLE PATTERN DOTS-345678
B375	253	FD	●○ ○○ ●●	1345678	BRAILLE PATTERN DOTS-1345678
B376	254	FE	○○ ●○ ●●	2345678	BRAILLE PATTERN DOTS-2345678
B377	255	FF	●○ ●○ ●●	12345678	BRAILLE PATTERN DOTS-12345678

4 Shift marks

Eight-dot Braille permits the generation of 256 different Braille patterns. Since this number cannot represent the total number of meanings required, it can be foreseen that the same Braille pattern will be used with different meanings, depending on the context. To indicate such secondary meanings unambiguously, the technique of applying shift marks to indicate shifting between several Braille tables shall be used; Braille patterns B314, B356 and B376 shall be used as shift marks as follows:

Braille identifier	Braille pattern	Dots	Function name
B356	○● ○○ ●●	234678	SHIFT MARK ONE
B376	○● ○○ ●●	2345678	SHIFT MARK TWO
B314	○● ○○ ●●	3478	SHIFT MARK THREE

For use together with the above shift marks, the following three groups of parameter characters are defined:

- **Rank indicators:** These define succeeding characters by indicating their rank. Braille characters identified by B001 to B017 are used for this purpose. Character B001 defines the first (or only) meaning of a Braille character, character B002 the second one, and so on. Braille character B000 is not defined.
- **Category indicators:** These define the category or class which the succeeding Braille characters belong to, e.g. Braille alphabet, Braille music notation, Braille mathematic notation. Braille characters identified by B020 to B077 shall be used for this purpose.
- **Character set indicators:** These define the meaning of the succeeding Braille pattern as they are linked to a specific coded character set. Braille characters identified by B100 to B177 are used for this purpose.

The three parameters described above are in a hierarchical connection: It is absolutely necessary to indicate the character set. Within this set it is possible to switch between different categories. The characters within a specific character set or category may have different meanings, indicated by the rank indicator.

SHIFT MARK ONE shall be used together with one subsequent parameter. This pair of characters only applies to the following Braille character. If necessary, additional pairs consisting of SHIFT MARK ONE plus parameter may be inserted before the effected Braille character.

This string represents an inseperable unit, this unit can be embedded in any string of characters without the necessity of beeing separated from the adjacent characters.

SHIFT MARK TWO shall be followed by at least one parameter; it is valid up to next SHIFT MARK TWO. SHIFT MARK TWO and the pertaining parameter(s) are placed between "BRAILLE PATTERN BLANK"-patterns thus forming a seperated string. To switch back to the situation before the appearance of SHIFT MARK TWO, it is possible to place a single SHIFT MARK TWO between "BRAILLE PATTERN BLANK". The SHIFT MARK ONE character may also be used within a sequence of characters defined in this way.

SHIFT MARK THREE is not yet specified and is reserved for future applications. It may be used together with multi-character parameters.

If no shift mark is used, rank indication B001 and category indication B020 shall apply.

5 Assignment of character set indicators

All characters set indicators not contained in Table 2 are reserved for future standardization and shall not be used.

Table 2 — Character set indicators

Parameter braille character			Used with shift marks	Purpose
ID	Braille pattern	dots		
B100	○○ ○○○ ●○	7	1, 2	switch to Latin alphabet based character sets (according to ISO/TR 11548-2)

Annex A

Code tables according to ISO/IEC 10646-1:2000

Table 233 — Row 28: BRAILLE PATTERNS

G = 00

P = 00

Table 233 — Row 28: BRAILLE PATTERNS

dec	hex	Name
000	00	BRAILLE PATTERN BLANK
001	01	BRAILLE PATTERN DOTS-1
002	02	BRAILLE PATTERN DOTS-2
003	03	BRAILLE PATTERN DOTS-12
004	04	BRAILLE PATTERN DOTS-3
005	05	BRAILLE PATTERN DOTS-13
006	06	BRAILLE PATTERN DOTS-23
007	07	BRAILLE PATTERN DOTS-123
008	08	BRAILLE PATTERN DOTS-4
009	09	BRAILLE PATTERN DOTS-14
010	0A	BRAILLE PATTERN DOTS-24
011	0B	BRAILLE PATTERN DOTS-124
012	0C	BRAILLE PATTERN DOTS-34
013	0D	BRAILLE PATTERN DOTS-134
014	0E	BRAILLE PATTERN DOTS-234
015	0F	BRAILLE PATTERN DOTS-1234
016	10	BRAILLE PATTERN DOTS-5
017	11	BRAILLE PATTERN DOTS-15
018	12	BRAILLE PATTERN DOTS-25
019	13	BRAILLE PATTERN DOTS-125
020	14	BRAILLE PATTERN DOTS-35
021	15	BRAILLE PATTERN DOTS-135
022	16	BRAILLE PATTERN DOTS-235
023	17	BRAILLE PATTERN DOTS-1235
024	18	BRAILLE PATTERN DOTS-45
025	19	BRAILLE PATTERN DOTS-145
026	1A	BRAILLE PATTERN DOTS-245
027	1B	BRAILLE PATTERN DOTS-1245
028	1C	BRAILLE PATTERN DOTS-345
029	1D	BRAILLE PATTERN DOTS-1345
030	1E	BRAILLE PATTERN DOTS-2345
031	1F	BRAILLE PATTERN DOTS-12345
032	20	BRAILLE PATTERN DOTS-6
033	21	BRAILLE PATTERN DOTS-16
034	22	BRAILLE PATTERN DOTS-26
035	23	BRAILLE PATTERN DOTS-126
036	24	BRAILLE PATTERN DOTS-36
037	25	BRAILLE PATTERN DOTS-136
038	26	BRAILLE PATTERN DOTS-236
039	27	BRAILLE PATTERN DOTS-1236
040	28	BRAILLE PATTERN DOTS-46
041	29	BRAILLE PATTERN DOTS-146
042	2A	BRAILLE PATTERN DOTS-246
043	2B	BRAILLE PATTERN DOTS-1246
044	2C	BRAILLE PATTERN DOTS-346
045	2D	BRAILLE PATTERN DOTS-1346
046	2E	BRAILLE PATTERN DOTS-2346
047	2F	BRAILLE PATTERN DOTS-12346
048	30	BRAILLE PATTERN DOTS-56
049	31	BRAILLE PATTERN DOTS-156
050	32	BRAILLE PATTERN DOTS-256
051	33	BRAILLE PATTERN DOTS-1256
052	34	BRAILLE PATTERN DOTS-356
053	35	BRAILLE PATTERN DOTS-1356
054	36	BRAILLE PATTERN DOTS-2356
055	37	BRAILLE PATTERN DOTS-12356
056	38	BRAILLE PATTERN DOTS-456
057	39	BRAILLE PATTERN DOTS-1456
058	3A	BRAILLE PATTERN DOTS-2456
059	3B	BRAILLE PATTERN DOTS-12456
060	3C	BRAILLE PATTERN DOTS-3456
061	3D	BRAILLE PATTERN DOTS-13456
062	3E	BRAILLE PATTERN DOTS-23456
063	3F	BRAILLE PATTERN DOTS-123456
064	40	BRAILLE PATTERN DOTS-7
065	41	BRAILLE PATTERN DOTS-17
066	42	BRAILLE PATTERN DOTS-27
067	43	BRAILLE PATTERN DOTS-127
068	44	BRAILLE PATTERN DOTS-37
069	45	BRAILLE PATTERN DOTS-137
070	46	BRAILLE PATTERN DOTS-237
071	47	BRAILLE PATTERN DOTS-1237
072	48	BRAILLE PATTERN DOTS-47
073	49	BRAILLE PATTERN DOTS-147

dec	hex	Name
074	4A	BRAILLE PATTERN DOTS-247
075	4B	BRAILLE PATTERN DOTS-1247
076	4C	BRAILLE PATTERN DOTS-347
077	4D	BRAILLE PATTERN DOTS-1347
078	4E	BRAILLE PATTERN DOTS-2347
079	4F	BRAILLE PATTERN DOTS-12347
080	50	BRAILLE PATTERN DOTS-57
081	51	BRAILLE PATTERN DOTS-157
082	52	BRAILLE PATTERN DOTS-257
083	53	BRAILLE PATTERN DOTS-1257
084	54	BRAILLE PATTERN DOTS-357
085	55	BRAILLE PATTERN DOTS-1357
086	56	BRAILLE PATTERN DOTS-2357
087	57	BRAILLE PATTERN DOTS-12357
088	58	BRAILLE PATTERN DOTS-457
089	59	BRAILLE PATTERN DOTS-1457
090	5A	BRAILLE PATTERN DOTS-2457
091	5B	BRAILLE PATTERN DOTS-12457
092	5C	BRAILLE PATTERN DOTS-3457
093	5D	BRAILLE PATTERN DOTS-13457
094	5E	BRAILLE PATTERN DOTS-23457
095	5F	BRAILLE PATTERN DOTS-123457
096	60	BRAILLE PATTERN DOTS-67
097	61	BRAILLE PATTERN DOTS-167
098	62	BRAILLE PATTERN DOTS-267
099	63	BRAILLE PATTERN DOTS-1267
100	64	BRAILLE PATTERN DOTS-367
101	65	BRAILLE PATTERN DOTS-1367
102	66	BRAILLE PATTERN DOTS-2367
103	67	BRAILLE PATTERN DOTS-12367
104	68	BRAILLE PATTERN DOTS-467
105	69	BRAILLE PATTERN DOTS-1467
106	6A	BRAILLE PATTERN DOTS-2467
107	6B	BRAILLE PATTERN DOTS-12467
108	6C	BRAILLE PATTERN DOTS-3467
109	6D	BRAILLE PATTERN DOTS-13467
110	6E	BRAILLE PATTERN DOTS-23467
111	6F	BRAILLE PATTERN DOTS-123467
112	70	BRAILLE PATTERN DOTS-567
113	71	BRAILLE PATTERN DOTS-1567
114	72	BRAILLE PATTERN DOTS-2567
115	73	BRAILLE PATTERN DOTS-12567
116	74	BRAILLE PATTERN DOTS-3567
117	75	BRAILLE PATTERN DOTS-13567
118	76	BRAILLE PATTERN DOTS-23567
119	77	BRAILLE PATTERN DOTS-123567
120	78	BRAILLE PATTERN DOTS-4567
121	79	BRAILLE PATTERN DOTS-14567
122	7A	BRAILLE PATTERN DOTS-24567
123	7B	BRAILLE PATTERN DOTS-124567
124	7C	BRAILLE PATTERN DOTS-34567
125	7D	BRAILLE PATTERN DOTS-134567
126	7E	BRAILLE PATTERN DOTS-234567
127	7F	BRAILLE PATTERN DOTS-1234567

Table 234 — Row 28: BRAILLE PATTERNS

	288	289	28A	28B	28C	28D	28E	28F
0	○○ ○○ ○○ ○●	○○ ○○ ○○ ○●	○○ ○○ ○○ ○●	○○ ○○ ○● ○●	○○ ○○ ○● ○●	○○ ○○ ○● ○●	○○ ○○ ○● ○●	○○ ○○ ○● ○●
	128	144	160	176	192	208	224	240
1	●○ ○○ ○○ ○●							
	129	145	161	177	193	209	225	241
2	○○ ○○ ○○ ○●	○○ ○○ ○○ ○●	○○ ○○ ○○ ○●	○○ ○○ ○● ○●	○○ ○○ ○● ○●	○○ ○○ ○● ○●	○○ ○○ ○● ○●	○○ ○○ ○● ○●
	130	146	162	178	194	210	226	242
3	●○ ○○ ○○ ○●							
	131	147	163	179	195	211	227	243
4	○○ ○○ ○● ○●							
	132	148	164	180	196	212	228	244
5	●○ ○○ ○○ ○●							
	133	149	165	181	197	213	229	245
6	○○ ○○ ○● ○●							
	134	150	166	182	198	214	230	246
7	●○ ○○ ○○ ○●							
	135	151	167	183	199	215	231	247
8	○● ○○ ○○ ○●							
	136	152	168	184	200	216	232	248
9	●● ○○ ○○ ○●							
	137	153	169	185	201	217	233	249
A	○● ○○ ○○ ○●							
	138	154	170	186	202	218	234	250
B	○● ○○ ○○ ○●							
	139	155	171	187	203	219	235	251
C	○● ○○ ○○ ○●							
	140	156	172	188	204	220	236	252
D	●● ○○ ○○ ○●							
	141	157	173	189	205	221	237	253
E	○● ○○ ○○ ○●							
	142	158	174	190	206	222	238	254
F	●● ○○ ○○ ○●							
	143	159	175	191	207	223	239	255

G = 00
P = 00

Table 234 — Row 28:BRAILLE PATTERNS

dec	hex	Name
128	80	BRAILLE PATTERN DOTS-8
129	81	BRAILLE PATTERN DOTS-18
130	82	BRAILLE PATTERN DOTS-28
131	83	BRAILLE PATTERN DOTS-128
132	84	BRAILLE PATTERN DOTS-38
133	85	BRAILLE PATTERN DOTS-138
134	86	BRAILLE PATTERN DOTS-238
135	87	BRAILLE PATTERN DOTS-1238
136	88	BRAILLE PATTERN DOTS-48
137	89	BRAILLE PATTERN DOTS-148
138	8A	BRAILLE PATTERN DOTS-248
139	8B	BRAILLE PATTERN DOTS-1248
140	8C	BRAILLE PATTERN DOTS-348
141	8D	BRAILLE PATTERN DOTS-1348
142	8E	BRAILLE PATTERN DOTS-2348
143	8F	BRAILLE PATTERN DOTS-12348
144	90	BRAILLE PATTERN DOTS-58
145	91	BRAILLE PATTERN DOTS-158
146	92	BRAILLE PATTERN DOTS-258
147	93	BRAILLE PATTERN DOTS-1258
148	94	BRAILLE PATTERN DOTS-358
149	95	BRAILLE PATTERN DOTS-1358
150	96	BRAILLE PATTERN DOTS-2358
151	97	BRAILLE PATTERN DOTS-12358
152	98	BRAILLE PATTERN DOTS-458
153	99	BRAILLE PATTERN DOTS-1458
154	9A	BRAILLE PATTERN DOTS-2458
155	9B	BRAILLE PATTERN DOTS-12458
156	9C	BRAILLE PATTERN DOTS-3458
157	9D	BRAILLE PATTERN DOTS-13458
158	9E	BRAILLE PATTERN DOTS-23458
159	9F	BRAILLE PATTERN DOTS-123458
160	A0	BRAILLE PATTERN DOTS-68
161	A1	BRAILLE PATTERN DOTS-168
162	A2	BRAILLE PATTERN DOTS-268
163	A3	BRAILLE PATTERN DOTS-1268
164	A4	BRAILLE PATTERN DOTS-368
165	A5	BRAILLE PATTERN DOTS-1368
166	A6	BRAILLE PATTERN DOTS-2368
167	A7	BRAILLE PATTERN DOTS-12368
168	A8	BRAILLE PATTERN DOTS-468
169	A9	BRAILLE PATTERN DOTS-1468
170	AA	BRAILLE PATTERN DOTS-2468
171	AB	BRAILLE PATTERN DOTS-12468
172	AC	BRAILLE PATTERN DOTS-3468
173	AD	BRAILLE PATTERN DOTS-13468
174	AE	BRAILLE PATTERN DOTS-23468
175	AF	BRAILLE PATTERN DOTS-123468
176	B0	BRAILLE PATTERN DOTS-568
177	B1	BRAILLE PATTERN DOTS-1568
178	B2	BRAILLE PATTERN DOTS-2568
179	B3	BRAILLE PATTERN DOTS-12568
180	B4	BRAILLE PATTERN DOTS-3568
181	B5	BRAILLE PATTERN DOTS-13568
182	B6	BRAILLE PATTERN DOTS-23568
183	B7	BRAILLE PATTERN DOTS-123568
184	B8	BRAILLE PATTERN DOTS-4568
185	B9	BRAILLE PATTERN DOTS-14568
186	BA	BRAILLE PATTERN DOTS-24568
187	BB	BRAILLE PATTERN DOTS-124568
188	BC	BRAILLE PATTERN DOTS-34568
189	BD	BRAILLE PATTERN DOTS-134568
190	BE	BRAILLE PATTERN DOTS-234568
191	BF	BRAILLE PATTERN DOTS-1234568
192	C0	BRAILLE PATTERN DOTS-78
193	C1	BRAILLE PATTERN DOTS-178
194	C2	BRAILLE PATTERN DOTS-278

dec	hex	Name
195	C3	BRAILLE PATTERN DOTS-1278
196	C4	BRAILLE PATTERN DOTS-378
197	C5	BRAILLE PATTERN DOTS-1378
198	C6	BRAILLE PATTERN DOTS-2378
199	C7	BRAILLE PATTERN DOTS-12378
200	C8	BRAILLE PATTERN DOTS-478
201	C9	BRAILLE PATTERN DOTS-1478
202	CA	BRAILLE PATTERN DOTS-2478
203	CB	BRAILLE PATTERN DOTS-12478
204	CC	BRAILLE PATTERN DOTS-3478
205	CD	BRAILLE PATTERN DOTS-13478
206	CE	BRAILLE PATTERN DOTS-23478
207	CF	BRAILLE PATTERN DOTS-123478
208	D0	BRAILLE PATTERN DOTS-578
209	D1	BRAILLE PATTERN DOTS-1578
210	D2	BRAILLE PATTERN DOTS-2578
211	D3	BRAILLE PATTERN DOTS-12578
212	D4	BRAILLE PATTERN DOTS-3578
213	D5	BRAILLE PATTERN DOTS-13578
214	D6	BRAILLE PATTERN DOTS-23578
215	D7	BRAILLE PATTERN DOTS-123578
216	D8	BRAILLE PATTERN DOTS-4578
217	D9	BRAILLE PATTERN DOTS-14578
218	DA	BRAILLE PATTERN DOTS-24578
219	DB	BRAILLE PATTERN DOTS-124788
220	DC	BRAILLE PATTERN DOTS-34578
221	DD	BRAILLE PATTERN DOTS-134578
222	DE	BRAILLE PATTERN DOTS-234578
223	DF	BRAILLE PATTERN DOTS-1234578
224	E0	BRAILLE PATTERN DOTS-678
225	E1	BRAILLE PATTERN DOTS-1678
226	E2	BRAILLE PATTERN DOTS-2678
227	E3	BRAILLE PATTERN DOTS-12678
228	E4	BRAILLE PATTERN DOTS-3678
229	E5	BRAILLE PATTERN DOTS-13678
230	E6	BRAILLE PATTERN DOTS-23678
231	E7	BRAILLE PATTERN DOTS-123678
232	E8	BRAILLE PATTERN DOTS-4678
233	E9	BRAILLE PATTERN DOTS-14678
234	EA	BRAILLE PATTERN DOTS-24678
235	EB	BRAILLE PATTERN DOTS-124678
236	EC	BRAILLE PATTERN DOTS-34678
237	ED	BRAILLE PATTERN DOTS-134678
238	EE	BRAILLE PATTERN DOTS-234678
239	EF	BRAILLE PATTERN DOTS-1234678
240	F0	BRAILLE PATTERN DOTS-5678
241	F1	BRAILLE PATTERN DOTS-15678
242	F2	BRAILLE PATTERN DOTS-25678
243	F3	BRAILLE PATTERN DOTS-125678
244	F4	BRAILLE PATTERN DOTS-35678
245	F5	BRAILLE PATTERN DOTS-135678
246	F6	BRAILLE PATTERN DOTS-235678
247	F7	BRAILLE PATTERN DOTS-1235678
248	F8	BRAILLE PATTERN DOTS-45678
249	F9	BRAILLE PATTERN DOTS-145678
250	FA	BRAILLE PATTERN DOTS-245678
251	FB	BRAILLE PATTERN DOTS-1245678
252	FC	BRAILLE PATTERN DOTS-345678
253	FD	BRAILLE PATTERN DOTS-1345678
254	FE	BRAILLE PATTERN DOTS-2345678
255	FF	BRAILLE PATTERN DOTS-12345678

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