Title:	Japanese TV Symbols
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Action:	Consideration by UTC

Summary

In the context of Japanese TV broadcast (ARIB: Association of Radio Industries and Businesses), character sets are used in text streaming which are mostly included in Unicode. In addition to regular Japanese text (broadly conceived as a mixed of Romaji (ASCII), Hiragana, Katakana, and Kanji) many symbols are also used. Most of these symbols are already encoded in Unicode. However many still are not and that has lead to the creation of Private Use characters in fonts used in the ARIB context. This document is categorizing them in usage groups:

- Traffic signs
- Audio/Video symbols
- Map/Guide symbols
- Arrows
- Numbers followed by period
- Chad symbols
- Japanese date symbols
- Japanese currency symbol
- Squared Latin abbreviations
- Miscellaneous symbols
- Registry Office symbols (?)
- Numbers followed by comma
- Parenthesized ideographs
- Circled Ideographs
- Geometric shapes
- CJK brackets
- Miscellaneous symbols
- Superscripts
- Closed captions
- Letterlike symbols
- Tortoise Shell Bracketed ideographs
- Square Enclosed ideographs
- Number forms
- Weather symbols

The groups are classified using a mix of semantic usage (Traffic signs, Map/Guide symbols, etc…) and glyph categorization (Arrows, Numbers period, Superscripts, etc…). Some of the latter groups' content may be integrated in the semantic group once their usage is clarified. As usual with symbol characters encoding, the adopted name is important because it drives unification decision depending whether the name conveys a semantic concept or a pure glyph description.

Inside these groups, you can find glyphs representing icons and some of text-derived constructs. These text derived glyphs contains either ASCII letters and punctuations combined together or Japanese text elements (Kanji and Hiragana). These Japanese text elements can be listed as follows:
- Square enclosed Kanji

- Circle enclosed Kanji
- Tortoise shell bracketed Kanji
- Small Kanji
- Square Hiragana

The enclosed characters could be added or expressed with the current characters using the enclosing diacritics such as 20DD COMBINING ENCLOSING CIRCLE and 20DE COMBINING ENCLOSING SQUARE. There is no enclosing diacritic for the Tortoise Shell bracket '[]', so the encoding of that bracketed set is more problematic. Finally, it is not clear yet whether the tortoise shell bracket notation and the parenthesis could be unified in that context or not (lack of information).

Another set contains smaller size Kanji. There is currently no precedent at encoding smaller size CJK ideographs in isolation.

The last set contains a single Hiragana cluster and is similar in approach to the 'Squared Katakana words' encoded in 3300-3357.

In addition the ARIB character set contains CJK characters not yet encoded in Unicode; or at least their unification status is unclear and would need further discussion in the context of the IRG. Discussion about these is outside the scope of this document.

Symbols

Traffic signs
No traffic signs are currently encoded. Some of the characters below are probably good candidate for encoding, however quite a few have a left-side driving bias (such as 'Alternate one way traffic') and some are somehow Japanese specific (such as the 'Maintenance' symbol)

ARIB	PUA	glyph	Unicode	glyph	comment
9001	E0C9				Accident
9002	E0CA				Disabled car
9003	E0CB				Obstacles on the road, related to 26A0 ⚠
9004	E0CC				Under construction
9005	E0CD				Icy (slippery) road
9006	E0CE				Maintenance (ambulance)?
9008	E0D0				Road closed (accident?)
9009	E0D1				Alternate one way traffic (left-side driving bias)
9010	E0D2				Tire chains required
9011	E0D3				No entry
9016	E0D8				Parking
9017	E0D9				Parking closed
9020	E0DC				Two way traffic, black
9021	E0DD				Two way traffic, white
9022	E0DE				Lane merge, black (possible LD bias)
9023	E0DF				Lane merge, white (possible LD bias)
9024	E0E0				Drive slowly (?)
9025	E0E1				Drive slowly
9026	E0E2				Closed entry (?, LD bias)
9027	E0E3				Closed entry, similar to 22A0 ⊠, but bigger
9028	E0E4				Closed to large cars (?)
9029	E0E5				Closed to large cars (?, truck image)
9030	E0E6				Restricted entry (?)
9031	E0E7				Restricted entry (?)
9032	E0E8				Basic speed limit (?) , similar to 25EF ◯
9033	E0E9				10kmph, Other variant of enclosed numeric
9034	E0EA				20kmph, Other variant of enclosed numeric
9035	E0EB				30kmph, Other variant of enclosed numeric

ARIB	PUA	glyph	Unicode	glyph	comment
9036	E0EC	㊵			40kmph, Other variant of enclosed numeric
9037	E0ED	㊿			50kmph, Other variant of enclosed numeric
9038	E0EE	⑥⓪			60kmph, Other variant of enclosed numeric
9039	E0EF	⑦⓪			70kmph, Other variant of enclosed numeric
9040	E0F0	⑧⓪			80kmph, Other variant of enclosed numeric

Numbers followed by period, first set (10-12)

ARIB	PUA	glyph	Unicode	glyph	comment
9045	E0F5	10.	2491	10.	
9046	E0F6	11.	2492	11.	
9047	E0F7	12.	2493	12.	

Audio/Video symbols

Two geometric shapes (ARIB 9064-9065) have been put in this group, although it is unclear whether this is their true meaning (lack of information)

ARIB	PUA	glyph	Unicode	glyph	comment
9048	E0F8	HV			HDTV (High Definition Television)
9049	E0F9	SD			SDTV (Standard Definition Television)
9050	E0FA	P	0050, 20DE	P	Progressive scan
9051	E0FB	W	0057, 20DE	W	Wide format broadcast
9052	E0FC	MV			Multi view TV
9053	E0FD	手	624B, 20DE	手	Sign language broadcast
9054	E0FE	字	5B57, 20DE	字	Closed captions
9055	E0FF	双	53CC, 20DE	双	Two way broadcast
9056	E180	デ	30C7, 20DE	デ	Data broadcasting service with linked main program
9057	E181	S	0053, 20DE	S	Stereo
9058	E182	二	4E8C, 20DE	二	Bilingual
9059	E183	多	591A, 20DE	多	Sound multiplex
9060	E184	解	89E3, 20DE	解	Commentary
9061	E185	SS			Surround stereo
9062	E186	B	0042, 20DE	B	B Mode stereo
9063	E187	N	004E, 20DE	N	News
9064	E188	■	25A0	■	(PUA character is bigger)
9065	E189	●	25CF	●	(PUA character is bigger)
9066	E18A	天	5929, 20DE	天	Weather forecast
9067	E18B	交	4EA4, 20DE	交	Traffic information

ARIB	PUA	glyph	Unicode	glyph	comment
9068	E18C	映	6620, 20DE	映	Drama
9069	E18D	無	7121, 20DE	無	Free broadcast
9070	E18E	料	6599, 20DE	料	Pay broadcast
9071	E18F	🔒			Parental lock
9072	E190	前	26BAF, 20DE		First part
9073	E191	後			Last part
9074	E192	再			Rebroadcast
9075	E193	新			New series
9076	E194	初			New release program
9077	E195	終			Last episode
9078	E196	生			Live broadcast
9079	E197	販			Mail order
9080	E198	声			Voice actors
9081	E199	吹			Dubbed
9082	E19A	PPV			Pay per view
9083	E19B	㊙	3299	㊙	Confidential
9084	E19C	ほか			And others

Map/Guide symbols

In addition to these symbols, we should note that the temple symbol is also common 卍. It now requires a CJK character but should be encoded as a symbol (probably as a Tibetan religious symbol).

ARIB	PUA	glyph	Unicode	glyph	comment
9101	E1A7	⛎			Public office
9102	E1A8	◎			Prefectural office
9103	E1A9	◎	25CE	◎	Municipal office
9104	E1AA	○	25CB	○	Town office
9105	E1AB	⊗	2A02	⊗	Police office, (like 2297 ⊗ or 2A02 ⊗)
9106	E1AC	✕			Police satellite office, like 00D7 ×)
9107	E1AD	㊋	328B	㊋	Fire station (unified with Circled Ideograph Fire)
9108	E1AE	〒	3012	〒	Post office (unified with postal mark, slightly larger)
9109	E1AF	⊞			Hospital
9110	E1B0	㊝			School
9111	E1B1	㊞			Kindergarten
9112	E1B2	开			Shrine
9113			534D	卍	(Could be encoded as a new symbol)

9114	E1B4	⛪			Church
9115	E1B5	⌐			Remains of castle
9116	E1B6	∴			Historic place of interest, (similar to 2234 ∴)
9117	E1B7	♨	2668	♨	Hot springs, font has both
9118	E1B8	☼			Factory, some similarities to 263C ☼ (white sun), or 2699 ⚙ (gear)
9119	E1B9	☼			Power plant
9120	E1BA	☼			Light house
9121	E1BB	⚓	2693	⚓	Harbor (unified with 2693 anchor)
9122	E1BC	✈	2708	✈	Airport (unified with 2708 airplane)
9123	E1BD	▲	25B2	▲	Mountain (unified with geometric shapes)
9124	E1BE	⛱			Beach
9125	E1BF	⛲			Park
9126	E1C0	⛳			Golf
9127	E1C1	⛴			Ferry
9128	E1C2	⛵			Marina
9129	E1C3	Ⓗ			Hotel
9130	E1C4	Ⓓ	24B9	Ⓓ	Department store
9131	E1C5	Ⓢ	24C8	Ⓢ	Station
9132	E1C6	⌜⌟			Intersection
9133	E1C7	Ⓟ			Parking space
9134	E1C8	🄸🄲			Intersection
9135	E1C9	🅂🄰			Service area
9136	E1CA	🄿🄰			Parking area
9137	E1CB	🄹			Junction
9138	E1CC	⛷			Ski resort
9139	E1CD	⛸			Ice skating
9140	E1CE	🏃			Track and field
9141	E1CF	⛺			Camping
9142	E1D0	🄻			Leisure center
9143	E1D1	☎	260E	☎	Telephone
9144	E1D2	Ω			Bank (?)
9145	E1D3	⚏			Graveyard
9146	E1D4	⛽			Gas station
9147	E1D5	🍽			Drive in restaurant (?)

| ARIB	PUA	glyph			comment
9148	E1D6	M			Museum
9149	E1D7	戸			Self defense forces

Arrows

ARIB	PUA	glyph	Unicode	glyph	comment
9201	E285	➡	27A1	➡	
9202	E286	⬅	2B05		
9203	E287	⬆	2B06		
9204	E288	⬇	2B07		

Chad symbols

ARIB	PUA	glyph	Unicode	glyph	comment
9205	E289	◯			(White chad?)
9206	E28A	⬤			(Black chad?)

Japanese date symbols

ARIB	PUA	glyph	Unicode	glyph	comment
9207	E28B	年	5E74	年	Year
9208	E28C	月	6708	月	Month
9209	E28D	日	65E5	日	Day

Japanese currency symbol

ARIB	PUA	glyph	Unicode	glyph	comment
9210	E28E	円	5186	円	Yen

Squared Latin abbreviations

ARIB	PUA	glyph	Unicode	glyph	comment
9211		㎡	33A1	㎡	
9212		㎥	33A5	㎥	
9213		㎝	339D	㎝	
9214		㎠	33A0	㎠	
9215		㎤	33A4	㎤	

Numbers period, second set (0-9)

ARIB	PUA	glyph	Unicode	glyph	comment
9216	E28F	0.	0030, 002E	0.	(other numbers 1.-9. are encoded at 2488-2490)
9217		1.	2488	1.	

9218		2.	2489	2.	
9219		3.	248A	3.	
9220		4.	248B	4.	
9221		5.	248C	5.	
9222		6.	248D	6.	
9223		7.	248E	7.	
9224		8.	248F	8.	
9225		9.	2490	9.	

Registry office symbols (?)

ARIB	PUA	glyph	Unicode	glyph	comment
9226	E290	氏	6C0F	氏	(family)
9227	E291	副	526F	副	(supplement, size difference)
9228	E292	元	5143	元	(first)
9229	E293	故	6545	故	(late, old)
9230	E294	前	524D	前	(preceding)
9231	E295	新	65B0	新	(new)

Numbers comma

ARIB	PUA	glyph	Unicode	glyph	comment
9232	E296	0,	0030, 002C	0,	
9233	E297	1,	0031, 002C	1,	
9234	E298	2,	0032, 002C	2,	
9235	E299	3,	0033, 002C	3,	
9236	E29A	4,	0034, 002C	4,	
9237	E29B	5,	0035, 002C	5,	
9238	E29C	6,	0036, 002C	6,	
9239	E29D	7,	0037, 002C	7,	
9240	E29E	8,	0038, 002C	8,	
9241	E29F	9,	0039, 002C	9,	

Parenthesized Ideographs

ARIB	PUA	glyph	Unicode	glyph	comment
9242		㈳	3233	㈳	Parenthesized ideograph society (company)
9243		㈶	3236	㈶	Parenthesized ideograph financial
9244		㈲	3232	㈲	Parenthesized ideograph have

9245		㈱	3231	㈱	Parenthesized ideograph stock
9246		㈹	3239	㈹	Parenthesized ideograph represent

Circled Ideograph

ARIB	PUA	glyph	Unicode	glyph	comment
9247	E2A0	㊟			Circled 554F 問 (ask)

Geometric shapes (could also be music related, see ARIB 9064-9065)

ARIB	PUA	glyph	Unicode	glyph	comment
9248	EA06	▶	25B6	▶	smaller
9249	EA07	◀	25C0	◀	smaller

CJK brackets

ARIB	PUA	glyph	Unicode	glyph	comment
9250		〖	3016	〖	
9251		〗	3017	〗	

Miscellaneous symbols

ARIB	PUA	glyph	Unicode	glyph	comment
9252	E2A1	◇			

Superscripts

ARIB	PUA	glyph	Unicode	glyph	comment
9253	E2A2	²	00B2	²	(different advance width)
9254	E2A3	³	00B3	³	

Closed Caption (?) symbols

ARIB	PUA	glyph	Unicode	glyph	comment
9255	E2A4	ⓒⒹ			CD
9256	E2A5	(vn)			Violin
9257	E2A6	(ob)			Oboe
9258	E2A7	(cb)			Contrabass
9259	E2A8	(ce			Cembalo (first part)
9260	E2A9	mb)			Cembalo (second part)
9261	E2AA	(hp)			Harp
9262	E2AB	(br)			Baritone
9263	E2AC	(p)			Piano

ARIB	PUA	glyph	Unicode	glyph	comment
9264	E2AD	(s)			Soprano
9265	E2AE	(ms)			Mezzo-soprano
9266	E2AF	(t)			Tenor
9267	E2B0	(bs)			Basso
9268	E2B1	(b)			Bass
9269	E2B2	(tb)			Trombone
9270	E2B3	(tp)			Trumpet
9271	E2B4	(ds)			Drums
9272	E2B5	(ag)			Acoustic guitar
9273	E2B6	(eg)			Electric guitar
9274	E2B7	(vo)			Vocal
9275	E2B8	(fl)			Flute
9276	E2B9	(ke			Keyboard (first part)
9277	E2BA	y)			Keyboard (second part)
9278	E2BB	(sa			Saxophone (first part)
9279	E2BC	x)			Saxophone (second part)
9280	E2BD	(sy			Synthesizer (first part)
9281	E2BE	n)			Synthesizer (second part)
9282	E2BF	(or			Organ (first part)
9283	E2C0	g)			Organ (second part)
9284	E2C1	(pe			Percussion (first part)
9285	E2C2	r)			Percussion (second part)
9286	E3A7	Ⓡ			Disc record
9287	E3A8	Ⓒ			Single compact disk
9288	E2C3	㊇			koto – Japanese harp (circled 7B8F 箏 (kite, string instrument))
9289	E2C4	DJ			Disc Jokey
9290	E2C5	演			Performed by

Letterlike symbols

ARIB	PUA	glyph	Unicode	glyph	comment
9291	E2C6	Fax	213B	FAX	

Parenthesized ideographs

ARIB	PUA	glyph	Unicode	glyph	comment
9301		(月)	322A	(月)	Parenthesized ideograph moon

9302		(火)	322B	(火)	Parenthesized ideograph fire
9303		(水)	322C	(水)	Parenthesized ideograph water
9304		(木)	322D	(木)	Parenthesized ideograph wood
9305		(金)	322E	(金)	Parenthesized ideograph metal
9306		(土)	322F	(土)	Parenthesized ideograph earth
9307		(日)	3230	(日)	Parenthesized ideograph sun
9308		(祝)	3237	(祝)	Parenthesized ideograph congratulation

Japanese Era names

ARIB	PUA	glyph	Unicode	glyph	comment
9309		明治	337E	明治	Square era name meizi
9310		大正	337D	大正	Square era name taisyou
9311		昭和	337C	昭和	Square era name syouwa
9312		大正	337D	大正	Square era name heisei

Letterlike symbols

ARIB	PUA	glyph	Unicode	glyph	comment
9313	E2CA	No.	2116	No.	
9314	E2CB	Tel	2121	TEL	

Miscellaneous symbols

ARIB	PUA	glyph	Unicode	glyph	comment
9315		〶	3036	〶	
9316	E2CC	⚾			(Baseball?)

Tortoise Shell Bracketed Ideographs

ARIB	PUA	glyph	Unicode	glyph	comment
9317	E2CD	〔本〕			(Bracketed 672C本)
9318	E2CE	〔三〕			(related to 3222 ㈢)
9319	E2CF	〔二〕			(related to ㈡)
9320	E2D0	〔安〕			
9321	E2D1	〔点〕			
9322	E2D2	〔打〕			
9323	E2D3	〔盗〕			
9324	E2D4	〔勝〕			
9325	E2D5	〔敗〕			

Miscellaneous symbols

ARIB	PUA	glyph	Unicode	glyph	comment
9326	E2D6	〔S〕			

Square Enclosed Ideographs

ARIB	PUA	glyph	Unicode	glyph	comment
9327	E2D7	投			
9328	E2D8	捕			
9329	E2D9	一			
9330	E2DA	二			
9331	E2DB	三			
9332	E2DC	遊			
9333	E2DD	左			
9334	E2DE	中			
9335	E2DF	右			
9336	E2E0	指			
9337	E2E1	走			
9338	E2E2	打			

Letterlike symbol

ARIB	PUA	glyph	Unicode	glyph	comment
9339	EA08	ℓ	2113	ℓ	

Squared Latin abbreviations

ARIB	PUA	glyph	Unicode	glyph	comment
9340		kg	338F	kg	
9341		Hz	3390	Hz	
9342		ha	33CA	ha	
9343		km	339E	km	
9344		km²	33A2	km²	
9345		hPa	3371	hPa	

Number forms

ARIB	PUA	glyph	Unicode	glyph	comment
9348	EA09	½	00BD	½	
9349	E2E5	%₃			Vulgar fraction zero third

ARIB	PUA	glyph	Unicode	glyph	comment
9350	EA0A	⅓	2153	⅓	
9351	EA0B	⅔	2154	⅔	
9352	EA0C	¼	00BC	¼	
9353	EA0D	¾	00BE	¾	
9354	EA0E	⅕	2155	⅕	
9355	EA0F	⅖	2156	⅖	
9356	EA10	⅗	2157	⅗	
9357	EA11	⅘	2158	⅘	
9358	EA12	⅙	2159	⅙	
9359	EA13	⅚	215A	⅚	
9360	E2E6	⅐			Vulgar fraction one seventh
9361	EA14	⅛	215B	⅛	
9362	E2E7	⅑			Vulgar fraction one ninth
9363	E2E8	⅒			Vulgar fraction one tenth

Weather symbols, first part

ARIB	PUA	glyph	Unicode	glyph	comment
9364		☀	2600	☀	
9365		☁	2601	☁	
9366		☂	2602	☂	
9367	E2E9	☃			Light snow? (related to 2603 ☃)

Miscellaneous symbols

ARIB	PUA	glyph	Unicode	glyph	comment
9368	E2EA	⛖	2616	⛖	White shogi piece
9369	E2EB	⛗	2617	⛗	Black shogi piece
9370	E2EC	⛘			Turned white shogi piece
9371	E2ED	⛙			Turned black shogi piece
9372	EA15	♦	2666	♦	Black diamond suit (smaller)
9373	EA16	♥	2665	♥	Black heart suit (smaller)
9374	EA17	♣	2663	♣	Black club suit (smaller)
9375	EA18	♠	2660	♠	Black spade suit (smaller)
9376	E2EE	⌺	233A	⌺	Close to 'APL FUNCTIONAL SYMBOL QUAD DIAMOND'
9377	E2EF	⊙	2299	⊙	?
9378	EA19	‼	203C	‼	

ARIB	PUA	glyph	Unicode	glyph	comment
9379	EA1A	‼	2049	⁉	

Weather symbols, second part

| ARIB	PUA	glyph	Unicode	glyph	comment
9380	E2F1	⛅			Partly cloudy
9381	E2F2	☔	2614	☂	Umbrella with rain drops (showery weather)
9382	E2F3	🌧			Rain
9383	E2F4	⛄			Snow? (related to 2603 ☃)
9384	E2F5	⛄			Heavy snow? (related to 2603 ☃)
9385	E2F6	⚡	26A1	⚡	(Thunder ?), unified with 'high voltage sign'?
9386	E2F7	⛈			Thunderstorm

Miscellaneous symbols

ARIB	PUA	glyph	Unicode	glyph	comment
9388	E2F9	⋝			(Point of interest?)
9389	E2FA	⋜			(Point of interest?)
9390	EA1B	♬	266C	♬	(different glyph)
9391	E2FB	☎	260E	☎	

Number forms

ARIB	PUA	glyph	Unicode	glyph	comment
9401		I	2160	I	
9402		II	2161	II	
9403		III	2162	III	
9404		IV	2163	IV	
9405		V	2164	V	
9406		VI	2165	VI	
9407		VII	2166	VII	
9408		VIII	2167	VIII	
9409		IX	2168	IX	
9410		X	2169	X	
9411		XI	216A	XI	
9412		XII	216B	XII	
9413		⑰	2470	⑰	
9414		⑱	2471	⑱	
9415		⑲	2472	⑲	

9416		⑳	2473	⑳	
9417		(1)	2474	(1)	
9418		(2)	2475	(2)	
9419		(3)	2476	(3)	
9420		(4)	2477	(4)	
9421		(5)	2478	(5)	
9422		(6)	2479	(6)	
9423		(7)	247A	(7)	
9424		(8)	247B	(8)	
9425		(9)	247C	(9)	
9426		⑽	247D	⑽	
9427		⑾	247E	⑾	
9428		⑿	247F	⑿	
9429		㉑	3251	㉑	
9430		㉒	3252	㉒	
9431		㉓	3253	㉓	
9432		㉔	3254	㉔	
9433	E383	(A)			
9434	E384	(B)			
9435	E385	(C)			
9436	E386	(D)			
9437	E387	(E)			
9438	E388	(F)			
9439	E389	(G)			
9440	E38A	(H)			
9441	E38B	(I)			
9442	E38C	(J)			
9443	E38D	(K)			
9444	E38E	(L)			
9445	E38F	(M)			
9446	E390	(N)			
9447	E391	(O)			
9448	E392	(P)			
9449	E393	(Q)			

9450	E394	(R)			
9451	E395	(S)			
9452	E396	(T)			
9453	E397	(U)			
9454	E398	(V)			
9455	E399	(W)			
9456	E39A	(X)			
9457	E39B	(Y)			
9458	E39C	(Z)			
9459		㉕	3255	㉕	
9460		㉖	3256	㉖	
9461		㉗	3257	㉗	
9462		㉘	3258	㉘	
9463		㉙	3259	㉙	
9464		㉚	325a	㉚	
9465		①	2460	①	
9466		②	2461	②	
9467		③	2462	③	
9468		④	2463	④	
9469		⑤	2464	⑤	
9470		⑥	2465	⑥	
9471		⑦	2466	⑦	
9472		⑧	2467	⑧	
9473		⑨	2468	⑨	
9474		⑩	2469	⑩	
9475		⑪	246a	⑪	
9476		⑫	246b	⑫	
9477		⑬	246c	⑬	
9478		⑭	246d	⑭	
9479		⑮	246e	⑮	
9480		⑯	246f	⑯	
9481		❶	2776	❶	
9482		❷	2777	❷	
9483		❸	2778	❸	

9484		❹	2779	❹	
9485		❺	277a	❺	
9486		❻	277b	❻	
9487		❼	277c	❼	
9488		❽	277d	❽	
9489		❾	277e	❾	
9490		❿	277f	❿	
9491		⓫	24eb	⓫	
9492		⓬	24ec	⓬	
9493		㉛	325b	㉛	