

11.A.2.15. Character Information Frame

This frame is the target data frame to which reference is made when character string data is referenced using the character string data compressed code.

11.A.2.15.1. High-frequency Character Information Frame

11.A.2.15.1.1. High-frequency Character Information Frame

11.A.2.15.1.1.1. Management Frame of High-frequency Character Information Frame

name [Management Frame 1 of High-frequency Character Information Frame]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	16		Management Frame Header		a
2	16	X		Detailed Information Record (#1)		a

11.A.2.15.1.1.1.1. Management Frame Header

This character information frame stores a character string by word in consideration of the Western languages.

The unit adds a space to the end of the character string when decoding it.

name [Management Frame Header]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	C	Data Declaration	'DFH0'	a
2	4	4	N	The Number of Detailed Information Records (G) for Character Information	=1	a
3	8	4	SWS	The Size of Detailed Information Record for Character Information	1)	a
4	12	4	D	Offset to the Top Detailed Information Record for Character Information	2)	a

- 1) This field describes the size of the detailed character information record. If there are two or more records, the records must have the same size.
- 2) The displacement from the top of the character information frame management frame to the first record of a sequence of detailed character information records is described, as it allows future expansion and manufacturer-specific data description.

11.A.2.15.1.1.2.Detailed Information Record of Character Information

name [Detailed Information Record of Character Information]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	C	Data Declaration	'NORM'	a
2	4	4	SWS	Expansion Field Size	1)	a
3	8	4	D	Offset to Expansion Field	1)	a
4	12	4	SWS	Category Definition Frame Size	2)	a
5	16	4	D	Category Definition Frame Address	3)	a
6	20	4	SWS	Category Data Frame Size	2)	a
7	24	4	D	Category Data Frame Address	3)	a
8	28	4	C	Default Keyboard Designation	NULL	a
9	32	4	SWS	Category Parent Record Size	4)	a
10	36	4	SWS	Category Option Record Size	5)	a
11	40	4	SWS	First-level Category Size	6)	a
12	44	4	N	Number of Option Items of the First-level Category	6)	a
13	48	4	D	Offset to First-level Category	6)	a
14	52	4	C	Keyboard Designation for the First-level Category	NULL	a
15	56	4	SWS	Size of Character Information Definition Frame	2)	a
16	60	4	D	Character Information Definition Frame Address	3)	a
17	64	4	SWS	Size of Character Information Data Frame	2)	a
18	68	4	D	Character Information Data Frame Address	3)	a
19	72	4	SWS	Size of the Record of Character Information Data Frame	7)	a
20	76	4	N	The Total Number of the Records of Character Information	8)	a
21	80	12	N	(Reserved)		a
22	92	B1		Character Information Data List for Representation Items	9)	a
23	O1	B2		A Sequence of Additional Frame Address(es) (#1 to #n)	3)	c
24	O2	B3		Expansion Field		c
25	O3	B4		Padding Field		c

Note: Items 25 and 26 are optional in this detailed character information record since their areas can be determined by items 5, 7, 16, and 18. However, the detailed high-frequency character information record size specified in the management frame header of the higher high-frequency character information frame must be satisfied by items 23 to 25.

1) Expansion Field Size and Offset

The field describes the displacement from the top of the detailed search information record to the top of the expansion field as the offset to the expansion field. Since this example does not have the expansion field, specify invalid values as the size and offset.

2) These fields describe the total size of the target data frame.

3) These fields describe the storage address of the target data frame according to the representation format of 7) in Section 11.A.2.1.2.

- 4) This field describes the size of the category parent record.

Since this example does not contain any category settings, specify the invalid value.

- 5) This field describes the size of one option record.

Since this example does not contain any category settings, specify the invalid value.

- 6) Size, Number of Option Items, and Offset of First-level Category

Since this example does not contain any category settings, specify the invalid value.

- 7) Size of the Record or Character Information Data Frame

This field describes the size of one record in the character information data frame.

- 8) Character Information Data Frame - total Number of Records

This field describes the total number of records in the character information data frame.

- 9) Character Data List for Representation Item

ex) English; 'HIGH FREQUENCY CHARACTER FRAME'

11.A.2.15.1.1.3.Character Information - Definition Frame

No.	Usage	Description type	Description type declaration	Number of data items	Additional information	Comment	Remarks	Classification
1	'DCTF'	'REAL'	-	-	(1)	Definition Field Declaration		a
2	'NAME'	'VRBL'	'CH'	4	-	Name (Character String)	1)	a

- 1) This field describes the Character string data.

- 2) The character string is currently stored in units of the token. Although the number of data items can be arbitrarily specified in each frame, it shall be corresponding to the number of characters (4 or up to 19) for the time being.

11.A.2.15.1.1.4.Character Information - Data Frame

name [High-frequency Character Information Data Frame]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	1		A Sequence of High-frequency Character Information Records		a

name [High-frequency Character Information Record]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	C	Name (Character String)		a

11.A.2.15.1.2. Rules for Storing High-frequency Character Information Frame

- 1) Up to 16 high-frequency character information frames can be created according to the compressed character code definition.

The frames shall be classified using the data declarations, and the definitions shall be 'DFH0,' and 'DFH1' to 'DFHF.'

- 2) The number of characters stored in each character information frame (the number of data items defined in a definition frame) can be arbitrarily defined by the manufacturer. Specify the optimum value corresponding to the characteristics of the data.
- 3) In this example, it is allowed to store data for all the usable languages into a same data frame continuously.
- 4) Store the records in order of character elements and frequencies of occurrence in each data frame.
- 5) To guarantee the decode rate, the allowable total of the storage sizes of high-frequency character information frames 1 to 16 for each language is up to the value specified in the guideline (tentatively fixed at 64K).

11.A.2.15.2. Medium-frequency Character Information Frame

The reference rate of the medium-frequency character information is quite different from that for high-frequency character string data. It is recommended to reside all the high-frequency character string data in the unit, however, it is not presupposed that medium-frequency character strings managed using this frame reside in memory in the unit because the amount of medium-frequency character data is larger than that of high-frequency character string data (for both the number of data items and the size). It is presumed that the data is sequentially read whenever it is referenced.

11.A.2.15.2.1. Medium-frequency Character Information Frame

11.A.2.15.2.1.1. Management Frame of Medium-frequency Character Information Frame

name [Management Frame of Medium-frequency Character Information Frame]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	16		Management Frame Header of Medium-frequency Character Information Frame		a
2	16	X		Detailed Information Record of Medium-frequency Character Information Frame- #1		a

11.A.2.15.2.1.1.1. Management Frame Header of Medium-frequency Character Information Frame

name [Management Frame Header of Medium-frequency Character Information Frame]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	C	Data Declaration	'DFM0'	a
2	4	4	N	Number of Detailed Information Records of Medium-frequency Character Information - G	=1	a
3	8	4	SWS	Size of Detailed Information Record of Medium-frequency Character Information	1)	a
4	12	4	D	Offset to the Top of Detailed Information Record of Medium-frequency Character Information	2)	a

- 1) This field describes the size of the detailed medium-frequency character information record. If there are two or more records, the records must have the same size.
- 2) The displacement from the top of the medium-frequency character information frame management frame to the first record of a sequence of detailed medium-frequency character information records is described, as it allows future expansion and manufacturer-specific data description.

11.A.2.15.2.1.2.Detailed Information Record of Medium-frequency Character Information

name [Detailed Information Record of Medium-frequency Character Information]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	C	Data Declaration	'SRBT'	a
2	4	4	SWS	Expansion Field Size	1)	a
3	8	4	D	Offset to Expansion Field	1)	a
4	12	4	SWS	Category Definition Frame Size	2)	a
5	16	4	D	Category Definition Frame Address	3)	a
6	20	4	SWS	Category Data Frame Size	2)	a
7	24	4	D	Category Data Frame Address	3)	a
8	28	4	C	Dictionary-corresponding Signature (dictionary search key)	4)	a
9	32	4	SWS	Category Parent Record Size	5)	a
10	36	4	SWS	Category Option Record Size	6)	a
11	40	4	SWS	First-level Category Size	7)	a
12	44	4	N	Number of Option Items of First-level Category	7)	a
13	48	4	D	Offset to First-level Category	7)	a
14	52	4		(Reserved)		a
15	56	4	SWS	Size of Medium-frequency Character Information Definition Frame	2)	a
16	60	4	D	Definition Frame Address of Medium-frequency Character Information	3)	a
17	64	4	SWS	Size Medium-frequency Character Information Data Frame	2)	a
18	68	4	D	Medium-frequency Character Information Data Frame Address	3)	a
19	72	4	SWS	Size of the Record of Medium-frequency Character Information Data Frame	8)	a
20	76	4	N	Total Number of the Records of Medium-frequency Character Information Data Frame	9)	a
21	80	12	N	(Reserved)		a
22	92	B1		Character Information Data List for Representation Item	10)	a
23	O1	B2		A Sequence of Additional Frame Address(es) (#1 to #n)	3)	c
24	O2	B3		Expansion Field		c
25	O3	B4		Padding Field		c

Note: Items 25 and 26 are optional in this detailed character information record since their areas can be determined by items 5, 7, 16, and 18. However, the detailed high-frequency character information record size specified in the management frame header of the higher high-frequency character information frame must be satisfied by items 23 to 25.

1) Expansion Field Size and Offset

The field describes the displacement from the top of the detailed search information record to the top of the expansion field as the offset to the expansion field. Since this example does not have the expansion field, invalid values are assigned to the size and offset.

- 2) These fields describe the total size of the target data frame.
- 3) These fields describe the storage address of the target data frame according to the representation format of 7) in Section 11.A.2.1.2.
- 4) To make up this frame as a group of character strings corresponding to the content in a specific field in the search frame, specify its signatures.

Example) Area code: 'ARCD' Street ID: 'STID',,,

- 5) This field describes the category parent record size.
- 6) This field describes the size of a single category option record.
- 7) Size, Number of Option Items, and Offset, of First-level Category

In this example, data consists of B-Tree search-type categories, thus specify the size of each category table between the first-level category table and the last level to be read. (i.e., this is not the first-level category table size but the maximum category table size.)

- 8) Size of the Record of Character Information Data Frame

This field describes the size of a record in the character information data frame.

- 9) Total Number of the Records of Character Information Data Frame

This field describes the total number of records in the character information data frame.

- 10) Character Data List for Representation Item

ex) English; 'POI NAME,' 'AREA CODE DICTIONARY,' 'STREET NAME'DICTIONARY' ,,,

11.A.2.15.2.1.3.Category Definition Frame

No.	Usage	Description type	Description type declaration	Number of data items	Additional information	Comment	Remarks	Classification
1	'DCTF'	'REAL'	-	-	(6)	Definition Field Declaration	a	
2	'SELN'	'NORM'	'UL'	1	-	Number of Option(Child) Items	a	
3	'DCSF'	'REAL'	-	-	(4)	Option Record definition Field Declaration	a	
4	'????'	'NORM'	'UL'	1	-	(Dictionary Search Key)	a	1)
5	'NXKD'	'NORM'	'UH'	1	-	Next-level Data Frame Type	a	2)
6	'NXFN'	'NORM'	'UH'	1	-	Next-level Data Frame Serial Number	a	2)
7	'NXST'	'OFST'	'LG'	1	-	Offset to Next-level Data Frame	a	

- 1) This field describes the code to be used as the dictionary search key.

It shall be specified according to the dictionary-corresponding signature specified in the detailed higher character information record.

- 2) Specify the following settings:

Category search level: NXKD=1 NXFN=0

Category last level: NXKD=2 NXFN=0

11.A.2.15.2.1.4. Medium-frequency Character Information Category Data Frame

name [Medium-frequency Character Information Category Data Frame]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	B1		Medium-frequency Character Information Category Table		a

11.A.2.15.2.1.4.1. Medium-frequency Character Information Category Table

name [Medium-frequency Character Information Category Table]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	B1		Medium-frequency Character Information Category Parent Record		a
2	O1	B2		A Sequence of Medium-frequency Character Information Category Option(child) Records		a

name [Medium-frequency Character Information Category Parent Record]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	N	Number of Option(child) Items		a

name [Medium-frequency Character Information Category Option(child) Record]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	N	Dictionary Search Key		a
2	4	1/2	N	Next-level Data Frame Type		a
3	4.5	1/2	N	Next-level Data Frame Serial Number		a
4	5	4	D	Offset to Next-level Data Frame		a
5	9	1	BR	Padding Field		c

11.A.2.15.2.1.5. Medium-frequency Character Information Definition Frame

No.	Usage	Description type	Description type declaration	Number of data items	Additional information	Comment	Remarks	Classification
1	'DCTF'	'REAL'	-	-	(6)	Definition Field Declaration		a
2	'BFRL'	'FDRL'	'UB'	1	-	Relation to the Top of the Previous Record Forward Relation from the Top of this Record	1)	a
3	'NFRL'	'FDRL'	'UB'	1	-	Relation to the Top of the Following Record Backward Relation from the Top of this Record	1)	a
4	'LGNO'	'NORM'	'UB'	1	-	Language Number	2)	c
5	'NAME'	'VRBL'	'CH'	'UB'	'CMCH'	Name (Character String)	3)	a
6	'ADLV'	'NORM'	'UB'	1	-	Address Level	4)	c
7	'CTGY'	'NORM'	'UW'	1	-	Type Code		c

- 1) This field describes the displacement from the top of the applicable data record to the previous or following record as the field relation. When there are no previous and following records, specify 0.
- 2) This field describes the language type as the character information.
- 3) This field describes the medium-frequency character string data.

However, it is not allowed that the character string specified in this field makes reference to medium-frequency character data managed by this data frame. (It is allowed to make reference to high-frequency character strings or encode data by making reference to the previous line.)

- 4) To store an address name, specify its level.

Such as the city, state, settlement, municipality. The details have not been fixed.

Note: The maximum size of this data frame is 2 GB.

11.A.2.15.2.1.6. Character Information Data Frame

name [Medium-frequency Character Information Data Frame]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	1		A Sequence of Medium-frequency Character Information Records		a

name [Medium-frequency Character Information Record]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	1	D	Relation to the Top of the Previous Record Forward Relation from the Top of this Record		a
2	1	1	D	Relation to the top of the following Record Backward Relation from the top of this Record		a
3	2	1	N	Language Number		c
4	3	B1	N:C	Name (Character String)		a
5	O1	1	N	Address Level		c
6	O2	2	N	Type Code		c

11.A.2.15.2.2. Medium-frequency Character Information Frame 1

The structure of this frame is the same with that of the middle-frequency character information frame in Section 11.A.2.16.2.1.

Note: The data declaration item is 'DFM1.'

Note: The maximum size of this data frame is 32 MB.

Note: 'STID' is recommended for the dictionary search key of this frame.

11.A.2.15.2.3. Medium-frequency Character Information Frame 2

The structure of this frame is the same with that of the middle-frequency character information frame in Section 11.A.2.16.2.1.

Note: The data declaration item is 'DFM2.'

Note: The maximum size of this data frame is 32 MB.

Note: 'ARCD' is recommended for the dictionary search key of this frame.

11.A.2.15.2.4. Medium-frequency Character Information Frame 3

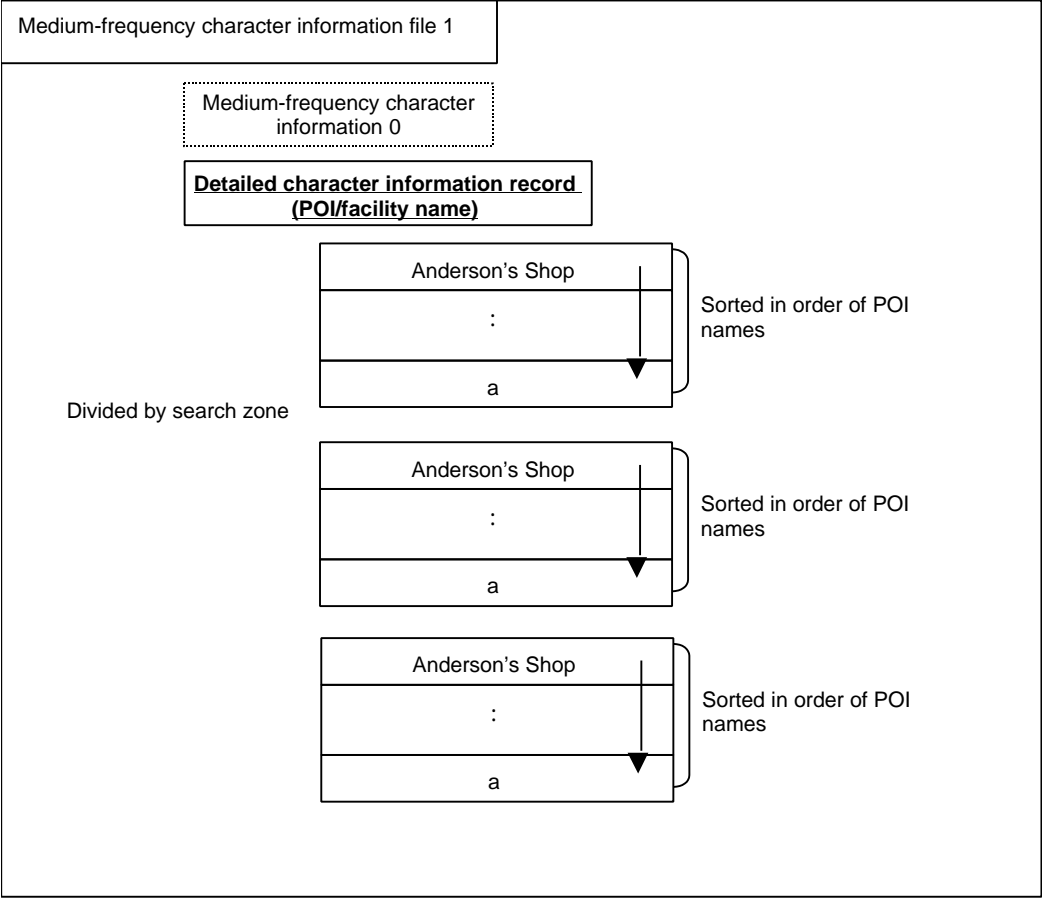
The structure of this frame is the same with that of the middle-frequency character information frame in Section 11.A.2.16.2.1.

Note: The data declaration item is 'DFM3.'

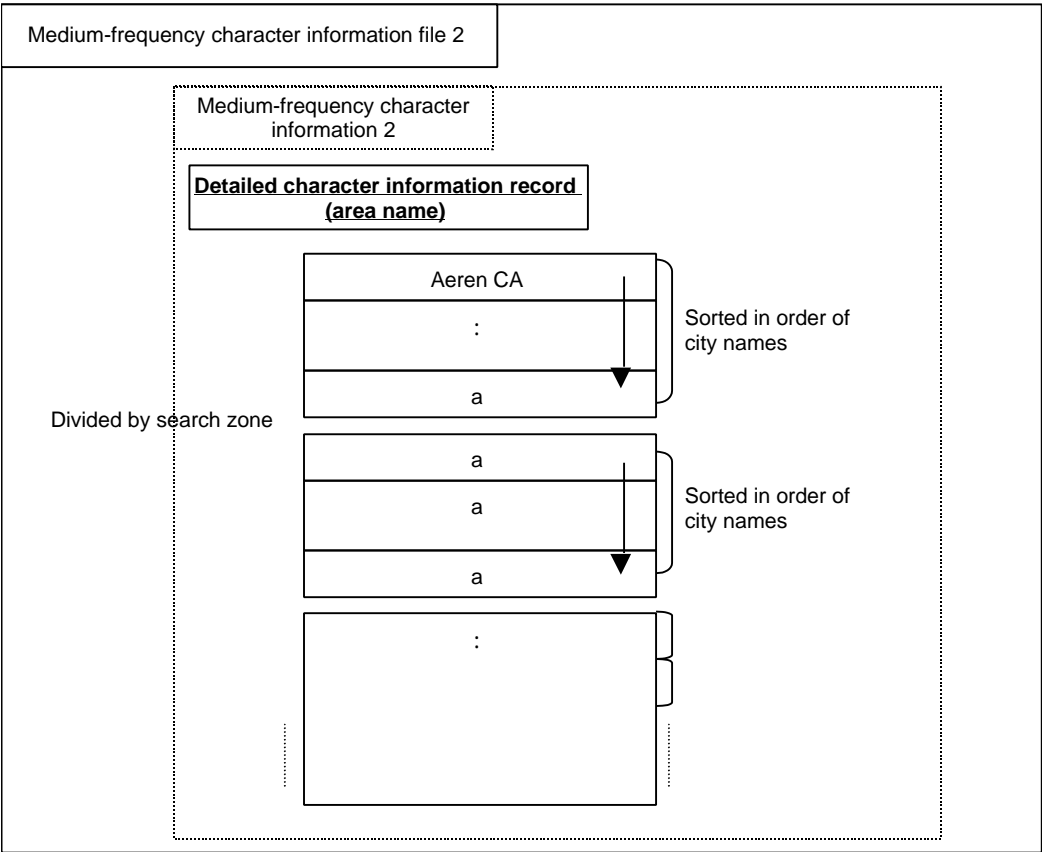
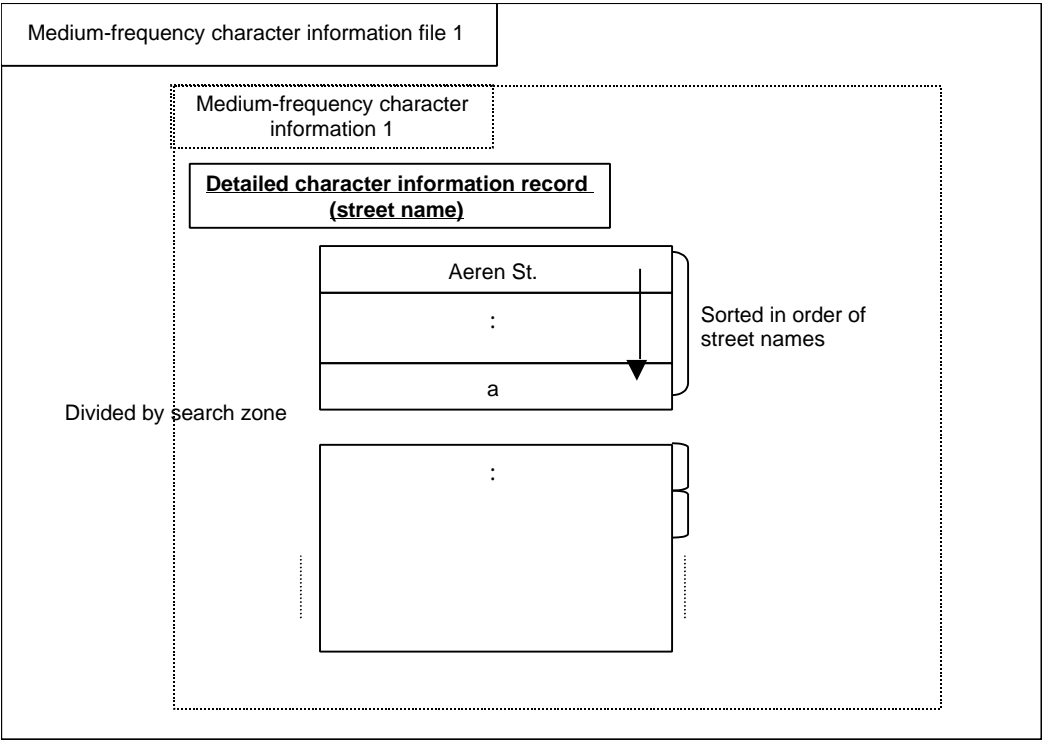
Note: The maximum size of this data frame is 32 MB.

Note: 'CTGY' is recommended for the dictionary search key of this frame.

11.A.2.15.2.5. Medium-frequency Character Information Frame Configuration (This is one example of possible configurations.)



Medium-frequency character Information Frame Configuration 1



Medium-frequency Character Information Frame Configuration 2

