Protocol Specifications
ADT Function

Bedside Monitor
SVM-7500 series, SVM-7600 series
Vital Signs Monitor
SVM-7100 series

0614-907872

NIHON KOHDEN

The contents of this manual are subject to change without notice. If you have any comments or suggestions on this manual, please contact us at: https://www.nihonkohden.com/

⚠ **WARNING**	A warning alerts the user to possible injury or death associated with the use or misuse of the instrument.
⚠ **CAUTION**	A caution alerts the user to possible injury or problems with the instrument associated with its use or misuse such as instrument malfunction, instrument failure, damage to the instrument, or damage to other property.

⚠ WARNING

When several medical instruments are used together, ground all instruments to the same one-point ground. Any potential difference between instruments may cause electrical shock to the patient and operator.

⚠ WARNING

When using the HL7 output data in a bedside monitor or vital signs monitor, connect only the specified instrument to the bedside monitor or vital signs monitor, and follow the specified procedure. Otherwise, the patient or operator may receive electrical shock.

⚠ WARNING

Do not use the HL7 output data as monitoring data for diagnosis. For monitoring a patient, use monitoring equipment such as a bedside monitor or a vital signs monitor in continuous mode. Shanghai Kohden is not responsible for use and application of output data.

⚠ CAUTION

Before connecting or disconnecting instruments, make sure that each instrument is turned off and the power cord is disconnected from the AC socket. Otherwise, it may cause electrical shock to the patient or operator, or it may cause data loss, malfunction or instrument failure.

⚠ CAUTION

Do not pull the cables with too much force and keep the cables out of the way. Otherwise, people may trip over them, the personal computer, bedside monitor or vital signs monitor may fall and injure the patient or operator, and monitoring may be affected.

⚠ CAUTION

Be careful to avoid computer viruses when connecting instruments to the HL7 output port on the bedside monitor or vital signs monitor.

⚠ CAUTION

Shanghai Kohden is not responsible for the following:

- Installation and management problems of an instrument or connector connected to the HL7 output port on the bedside monitor or vital signs monitor.
- Problems on the bedside monitor or vital signs monitor caused by the connected instruments or connector.

⚠ CAUTION

Using the same IP address on multiple instruments or making a loop connection on the network hub may cause serious damage to the connected instruments. Network management must only be done by qualified service personnel or a person with technical knowledge.

⚠ CAUTION

The bedside monitor and vital signs monitor are medical instruments and strict standards are applied.
However, there is a possibility that connecting the bedside monitor or vital signs monitor to a personal computer causes leakage current to flow to the patient or operator and leads to a dangerous situation. It could be a legal matter if the HIS supplier does not provide sufficient information or training to the customer in regard to the above issues.
Take necessary measures such as isolation by a light isolator or isolation transformer, and provide sufficient training to the customer or medical staff.

⚠ CAUTION

For customer convenience, Shanghai Kohden provides information for outputting HL7 data as needed.
However, Shanghai Kohden is not responsible for any use of output HL7 data directly involved with the patient life such as alarms or feedback system.
Also, be careful about effect from ECG artifact or data loss caused by noise from data transfer.

⚠ CAUTION

The specifications in this Protocol Specification are correct as of September 2019. If the bedside monitor or vital signs monitor software is updated, the specifications, especially messages, may change.

⚠ CAUTION

This document contains confidential technical information which is intended only for use of authorized customers, and may not be shared with any other third party. If you need to share this information with a third party, contact Shanghai Kohden.

Contents

1. Overview

This document describes HL7 version 2.4-based considerations for creating ADT functions of the bedside monitor / vital signs monitor.

Responsibility

Shanghai Kohden is not responsible for any damage or harm caused by use of this product.
Shanghai Kohden is not responsible for any damage or harm caused by use of data from the bedside monitor / vital signs monitor.
The user is responsible for any use of data from the bedside monitor / vital signs monitor.

1.1. Behavior

The bedside monitor / vital signs monitor

An external system can request the admission and the discharge operation to the bedside monitor / vital signs monitor.

- ＊ This processing is different from admission and discharge of patient to or from hospital defined in HL7 v2.4 standard protocol.

*1: Confirm whether the admission status, the discharge status and patient information on the monitor system side are correct when you use ADT functions.

1.2. Interfaces

The bedside monitor / vital signs monitor provides the following interfaces (ADT functions):

1) Bed admission processing (Event A04): ADT/ACK

In reply to a request for bed admission from an external system, bed admission is processed.

External system > [ADT^A04] > Bedside monitor / vital signs monitor
External system < [ACK^A04] < Bedside monitor / vital signs monitor

- ＊ When a status of the monitor is admission, at first the bedside monitor / vital signs monitor processes the discharge, then it processes the admission.

2) Bed discharge processing (Event A02): ADT/ACK

In reply to a request for bed discharge from an external system, bed discharge is processed.

External system > [ADT^A02] > Bedside monitor / vital signs monitor
External system < [ACK^A02] < Bedside monitor / vital signs monitor

3) Patients-in-bed query and response processing (Event R02/R04): QRY/ORF

In reply to a request for patients-in-bed query and response from an external system, a list of patients is returned.

External system > [QRY^R02] > Bedside monitor / vital signs monitor
External system < [ORF^R04] < Bedside monitor / vital signs monitor

4) Patient information update processing (Event A08): ADT/ACK

In reply to a request for updating patient information from an external system, the patient information in the bedside monitor / vital signs monitor is updated.

External system > [ADT^A08] > Bedside monitor / vital signs monitor
External system < [ACK^A08] < Bedside monitor / vital signs monitor

* When a status of the monitor is empty, the bedside monitor / vital signs monitor returns the error of the patient information update request.

2. Communication Protocol

2.1. Communication Acceptance

TCP/IP socket connections

Bed admission operation: The bedside monitor / vital signs monitor acts as a server.

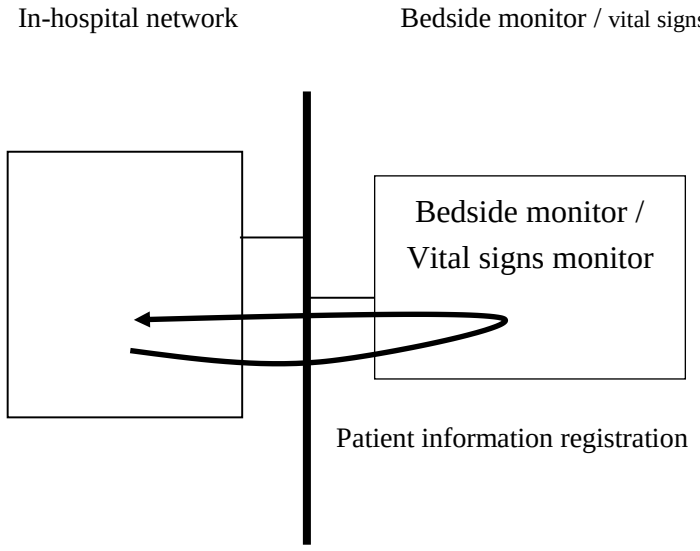
Bed discharge operation: The bedside monitor / vital signs monitor acts as a server.

Patients-in-bed query: The bedside monitor / vital signs monitor acts as a server.

Patient information updating: The bedside monitor / vital signs monitor acts as a server.

- A total of three ports are used: one for bed admission or discharge operation; one for patients-in-bed query; and one for patient information updating.
- A client establishes a communication (socket open).
- If a fault occurs between the monitor system and the external system, an alert indication must be made on the HIS side.
- If a fault occurs at the bedside monitor/vital signs monitor, an alert indication must be made on the HIS side.
- It is assumed that any open socket will be closed the moment when a single request has been completed, unless an event such as a failure or restart occurs. If a connection is refused, the client application must make connection attempts until the connection is accepted.

Once a communication is established between the two systems, message exchanges start. The sending system initiates message transmission. After transmitting a message, the sending application must wait for an HL7 message-type response before transmitting the next message.
If the sending application does not receive an HL7 message-type response within a specified time, it retransmits the message.



3. Data Structure

Every HL7 message ends with <EOM> (End of message).

4. Data Items

Patient information (information sent to a monitor)

Patient name: PID-5
Patient ID (internal ID)): PID-3
Birth date: PID-7
Sex: PID-8
Height: OBX-2,3,5,6
Diagnosis: DG1-4 *1)
Height: OBX-2,3,5,6
Weight: OBX-2,3,5,6
Blood type: OBX-2,3,5,6

The following two items are automatically generated from the above information.
Age: Calculated from the birth date.
Body surface area (BSA): Calculated from the height and weight.

*1) It is unsuitable to use DG1-4 information as a doctor name.

5. Description of Abbreviations

Abbreviations used in each message or a segment table are described below. (Common to all tables)

SEQ: Ordinal position of the data field within the segment. This number is used to refer to the data field in the text comments that follow the segment definition table.

LEN: Maximum number of characters that one occurrence of the data field may occupy.

DT: Restrictions on the contents of the data field.

OPT: Whether the field is required, optional, or conditional in a segment.

- R - required
- O - optional
- C - conditional on the trigger event or on some other field(s). The field definitions following the segment attribute table should specify the algorithm that defines the conditionality for this field.
- X - not used with this trigger event
- B - left in for backward compatibility with previous versions of HL7. The field definitions following the segment attribute table should denote the optionality of the field for prior versions.

BSM: A setup by this specification (this item defines the existence of segment in this system, or an element setup) Bedside monitor SVM-7500 Series / SVM-7600 Series.

- R - required
- O - optional
- C - conditional on the trigger event or on some other field(s). The field definitions following the segment attribute table should specify the algorithm that defines the conditionality for this field.
- X - not used with this trigger event
- B - left in for backward compatibility with previous versions of HL7. The field definitions following the segment attribute table should denote the optionality of the field for prior versions.
- N - Usually, it is not used (it is used only in institution).

SVM: A setup by this specification (this item defines the existence of segment in this system, or an element setup) Vital signs monitor SVM-7100 Series.

- R - required
- O - optional
- C - conditional on the trigger event or on some other field(s). The field definitions following the segment attribute table should specify the algorithm that defines the conditionality for this field.
- X - not used with this trigger event
- B - left in for backward compatibility with previous versions of HL7. The field definitions following the segment attribute table should denote the optionality of the field for prior versions.
- N - Usually, it is not used (it is used only in institution).

RP/#: Whether the field may repeat

N or blank	-	no repetition
Y	-	the field may repeat an indefinite or site-determined number of times
(integer)	-	the field may repeat up to the number of times specified by the integer

Remarks: Fixed value is described in this column.

6. Message Delimiters

In constructing a message, certain special characters are used. They are the segment terminator, the field separator, the component separator, subcomponent separator, repetition separator, and escape character. The segment terminator is always a carriage return (in ASCII, a hex 0D). The other delimiters are defined in the MSH segment, with the field delimiter in the 4th character position, and the other delimiters occurring as in the field called Encoding Characters, which is the first field after the segment ID. The delimiter values used in the MSH segment are the delimiter values used throughout the entire message. In the absence of other considerations, HL7 recommends the suggested values found in Figure 2-1 delimiter values.

At any given site, the subset of the possible delimiters may be limited by negotiations between applications. This implies that the receiving applications will use the agreed upon delimiters, as they appear in the Message Header segment (MSH), to parse the message.

Delimiter	Suggested Value	Encoding Character Position	Usage
Segment Terminator	<cr> (hex 0D)	-	Terminates a segment record. This value cannot be changed by implementers.
Field Separator	|	-	Separates two adjacent data fields within a segment. It also separates the segment ID from the first data field in each segment.
Component Separator	^	1	Separates adjacent components of data fields where allowed.
Subcomponent Separator	&	4	Separates adjacent subcomponents of data fields where allowed. If there are no subcomponents, this character may be omitted.
Repetition Separator	~	2	Separates multiple occurrences of a field where allowed.
Escape Character	\	3	Escape character for use with any field represented by an ST, TX or FT data type, or for use with the data (fourth) component of the ED data type. If no escape characters are used in a message, this character may be omitted. However, it must be present if subcomponents are used in the message.

Figure 2-1 delimiter values

In the standard HL7 message protocol, these are no definition about the message start code. In this system, we define the message start code as hex 0x0b in ASCII.

In the standard HL7 message protocol, these are no definition about the message terminator. In this system, we define the message terminator as hex 0x1c 0x0d in ASCII.

7. HL7 Messages and Segments

7.1. Message List

No.	Function	Message	HL7		Section	
1	Patient bed admission	Patient registration	ADT	A04	Other system	Bedside monitor / Vital signs monitor
		Response of registration	ACK	A04	Bedside monitor / Vital signs monitor	Other system
2	Patient bed discharge to monitor	Patient moving to other department or building	ADT	A02	Other system	Bedside monitor / Vital signs monitor
		Response of registration	ACK	A02	Bedside monitor / Vital signs monitor	Other system
3	Patients-in-bed query	Patients-in-bed query	QRY	R02	Other system	Bedside monitor / Vital signs monitor
		Patients-in-bed response	ORF	R04	Bedside monitor / Vital signs monitor	Other system
4	Patient information updating	Patient information updating	ADT	A08	Other system	Bedside monitor / Vital signs monitor
		Response of registration	ACK	A08	Bedside monitor / Vital signs monitor	Other system

Table 1. Message List

7.2. Register a Patient (Event A04)

7.2.1. Register a Patient Message: ADT^A04

No.	Segment	Segment Name	BSM / SVM	Remarks
1	MSH	Message Header	R	
2	EVN	Event Type	R	
3	PID	Patient Identification	R	
4	[PD1]	Additional Demographics	N	
5	[{ROL}]	Role	N	
6	[{NK1}]	Next of Kin / Associated Parties	N	
7	PV1	Patient Visit	R	
8	[PV2]	Patient Visit – Additional Info.	N	
9	[{ROL}]	Role	N	
10	[{DB1]}	Disability Information	N	
11	[{OBX}]	Observation/Result	R	
12	[{AL1}]	Allergy Information	N	
13	[{DG1}]	Diagnosis Information	N	
14	[DRG]	Diagnosis Related Group	N	
	[{			
15	PR1	Procedures	N	
16	[{ROL}]	Role	N	
	}]			
17	[{GT1}]	Guarantor	N	
	[{			
18	IN1	Insurance	N	
19	[IN2]	Insurance Additional Info.	N	
20	[{IN3}]	Insurance Additional Info – Cert.	N	
21	[{ROL}]	Role	N	
	}]			
22	[{ACC}]	Accident Information	N	
23	[UB1]	Universal Bill Information	N	
24	[UB2]	Universal Bill 92 Information	N	
25	[PDA]	Patient Death and Autopsy	N	

Table 2. Register a patient message (ADT^A04)

- Braces {...} indicate one or more repetitions of the enclosed group of segments.
- Brackets [...] indicate that the enclosed group of segments is optional.
- If a group of segments is optional and may repeat it should be enclosed in brackets and braces {[...]}.

7.2.1.1. Register a Patient Message: MSH segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	1	ST	R	R	-	Field Separator	|
2	4	ST	R	R	-	Encoding Characters	^~\&
3	180	HD	O	O	-	Sending Application	
4	180	HD	O	O	-	Sending Facility	
5	180	HD	O	O	-	Receiving Application	
6	180	HD	O	O	-	Receiving Facility	
7	26	TS	O	O	-	Date/Time of Message	
8	40	ST	O	N	-	Security	
9	13	CM	R	R	-	Message Type	ADT^A04^ADT_A01
10	20	ST	R	R	-	Message Control ID	
11	3	PT	R	R	-	Processing ID	P
12	60	VID	R	R	-	Version ID	2.4
13	15	NM	O	N	-	Sequence Number	
14	180	ST	O	N	-	Continuation Pointer	
15	2	ID	O	R	-	Accept Acknowledgement Type	
16	2	ID	O	R	-	Application Acknowledgement Type	
17	3	ID	O	N	-	Country Code	
18	16	ID	O	O	Y	Character Set	
19	250	CE	O	N	-	Principal Language of Message	
20	20	ID	O	O	-	Alternate Character Set Handling Scheme	
21	10	ID	O	N	Y	Conformance Statement ID	

Table 3: Register a patient message: MSH Segment

The field definition of an indispensable setup in MSH segment and an arbitrary setup is shown below.

MSH-1. Field Separator

Value	Description
| (fixed)	Separator between the fields

MSH-2. Encoding characters

Value	Description
^~\& (fixed)	Component separator, repetitive separator, an escape character, subcomponent separator

MSH-3. Sending Application

Value	Description
<Sending Application>	(example) HL7Client *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-4. Sending Facility

Value	Description
<Institution>^<Section>	(example) Receiving Facility *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-5. Receiving Application

Value	Description
<Receiving Application>	(example) HL7Gateway *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-6. Receiving Facility

Value	Description
<Institution>^<Section>	(example) NihonKohden *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-7. Date/Time of Message

Value	Description
YYYYMMDDHHMMSS	Year/month/day/hour/minute/second (example) 20070401171823 (Usually, this field is not used)

MSH-9. Message Type

Value	Description
ADT^A04^ADT_A01 (fixed)	<Message Type>^<Event Type> Message Type: Reference of HL7Table0076 Event Type: Reference of HL7Table0003

MSH-10. Message Control ID

Value	Description
YYYYMMDDNNNNNN	Year/Month/Day/Sequence Number (example) 20070401123456

MSH-11. Processing ID

Value	Description
P (fixed)	Production: Reference of HL7Table0103

MSH-12. Version ID

Value	Description
2.4 (fixed)	HL7 protocol version 2.4

MSH-15. Accept Acknowledgment

Value	Description
NE (fixed)	“necessary” The PCD TF requires that this field be valued as NE.

MSH-16. Application Acknowledgment

Value	Description
AL (fixed)	“always” The PCD TF requires that this field be valued as AL.

MSH-18. Character Set

Value	Description
ASCII	When the entire message is in ASCII code. * SVM-7100series / SVM-7500series / SVM-7600series supports only ASCII.

MSH-20. Alternate Character Set Handling Scheme

Value	Description
ASCII	When the entire message is in ASCII code. * SVM-7100series / SVM-7500series / SVM-7600series supports only ASCII.

7.2.1.2. Register a Patient Message: EVN Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	3	ID	B	B	-	Event Type Code	
2	26	TS	R	R	-	Recorded Data/Time	
3	26	TS	O	O	-	Date/Time Planned Event	
4	3	IS	O	R	-	Event Reason Code	
5	250	XCN	O	O	Y	Operator ID	
6	26	TS	O	O	-	Event Occurred	
7	180	HD	O	O	-	Event Facility	

Table 4. Register a patient message: EVN segment

The field definition of an indispensable setup in EVN segment and an arbitrary setup is shown below.

EVN-1. Event Type Code

Value	Description
A04 (fixed)	This field has been retained for backward compatibility only. We recommend using the second component (trigger event) of *MSH-9 - Message Type* to transmit event type code information. (Not used in reception mode)

EVN-2. Recorded Data/Time

Value	Description
YYYYMMDDhhmmss	System date/time (Not used in reception mode)

EVN-4. Event Reason Code

Value	Description
02 (fixed)	Physician/health practitioner order (Not used in reception mode)

7.2.1.3. Register a Patient Message: PID Segment

SEQ	LEN	DT	OPT	BSM/ SVM	RP/#	Element	Remarks
1	4	SI	O	N	-	Set ID - PID	
2	20	CX	B	N	-	Patient ID	
3	250	CX	R	R	Y	Patient Identifier List	
4	20	ST	O	N	Y	Alternate Patient ID - PID	
5	250	XPN	R	R	Y	Patient Name	
6	250	XPN	O	N	-	Mother's Maiden Name	
7	26	TS	O	R	-	Date/Time of Birth	
8	1	IS	O	R	-	Administrative Sex	
9	250	XPN	B	N	Y	Patient Alias	
10	250	CE	O	N	-	Race	
11	250	XAD	O	N	Y	Patient Address	
12	4	IS	O	N	-	County Code	
13	250	XTN	O	N	Y	Phone Number - Home	
14	250	XTN	O	N	Y	Phone Number - Business	
15	250	CE	O	N	-	Primary Language	
16	250	CE	O	N	-	Marital Status	
17	250	CE	O	N	-	Religion	
18	250	CX	O	N	-	Patient Account Number	
19	16	ST	B	N	-	SSN Number - Patient	
20	25	DLN	O	N	-	Driver's License Number - Patient	
21	250	CX	O	N	-	Mother's Identifier	
22	250	CE	O	N	-	Ethnic Group	
23	250	ST	O	N	-	Birth Place	
24	1	ID	O	N	-	Multiple Birth Indicator	
25	2	NM	O	N	-	Birth Order	
26	250	CE	O	N	-	Citizenship	
27	250	CE	O	N	-	Veterans Military Status	
28	250	CE	O	N	-	Nationality	
29	26	TS	O	N	-	Patient Death Date and Time	
30	1	ID	O	N	-	Patient Death Indicator	
31	1	ID	O	N	-	Identity Unknown Indicator	
32	20	IS	O	N	Y	Identity Reliability Code	
33	26	TS	O	N	-	Last Update Date/Time	
34	40	HD	O	N	-	Last Update Facility	
35	250	CE	C	N	-	Species Code	
36	250	CE	C	N	-	Breed Code	
37	80	ST	O	N	-	Strain	
38	250	CE	O	N	-	Production Class Code	

Table 5. Register a patient message: PID segment

The field definition of an indispensable setup in PID segment and an arbitrary setup is shown below.

PID-3. Patient ID (Internal ID)

Value	Description
<Patient ID>	

PID-5. Patient Name

Value	Description
<family name (ST)> ^<given name (ST)> ^<middle initial or name (ST)> ^<suffix (e.g., JR or III) (ST)> ^<prefix (e.g., DR) (ST)> ^<degree (e.g., MD) (IS)> ^<name type code (ID)> ^<name representation code (ID)>	Name type code: Reference of HL7Table0200 Name representation code: Reference of HL7Table0465 (example) Kohden^Tarou^^^^^L^A

PID-7. Date/Time of Birth

Value	Description
YYYYMMDD(HHMM(SS))	Year/month/day/hour/minute/second (example) 20010131171823

PID-8. Sex

Value	Description
<Sex>	Reference of HL7Table0001
F	Female
M	Male
O	Other
U	Unknown

7.2.1.4. Register a Patient Message: PV1 Segment

SEQ	LEN	DT	OPT	BSM/ SVM	RP/#	Element	Remarks
1	4	SI	O	N	-	Set ID - PV1	
2	1	IS	R	R	-	Patient Class	
3	80	PL	O	R	-	Assigned Patient Location	
4	2	IS	O	N	-	Admission Type	
5	250	CX	O	N	-	Preadmit Number	
6	80	PL	O	N	-	Prior Patient Location	
7	250	XCN	O	N	Y	Attending Doctor	
8	250	XCN	O	N	Y	Referring Doctor	
9	250	XCN	B	N	Y	Consulting Doctor	
10	3	IS	O	N	-	Hospital Service	
11	80	PL	O	N	-	Temporary Location	
12	2	IS	O	N	-	Preadmit Test Indicator	
13	2	IS	O	N	-	Re-admission Indicator	
14	6	IS	O	N	-	Admit Source	
15	2	IS	O	N	Y	Ambulatory Status	
16	2	IS	O	N	-	VIP Indicator	
17	250	XCN	O	N	Y	Admitting Doctor	
18	2	IS	O	N	-	Patient Type	
19	250	CN	O	N	-	Visit Number	
20	50	FC	O	N	Y	Financial Class	
21	2	IS	O	N	-	Charge Price Indicator	
22	2	IS	O	N	-	Courtesy Code	
23	2	IS	O	N	-	Credit Rating	
24	2	IS	O	N	Y	Contract Code	
25	8	DT	O	N	Y	Contract Effective Date	
26	12	NM	O	N	Y	Contract Amount	
27	3	NM	O	N	Y	Contract Period	
28	2	IS	O	N	-	Interest Code	
29	1	IS	O	N	-	Transfer to Bad Debt Code	
30	8	DT	O	N	-	Transfer to Bad Debt Date	
31	10	IS	O	N	-	Bad Debt Agency Code	
32	12	NM	O	N	-	Bad Debt Transfer Amount	
33	12	NM	O	N	-	Bad Debt Recovery Amount	
34	1	IS	O	N	-	Delete Account Indicator	
35	8	DT	O	N	-	Delete Account Date	
36	3	IS	O	N	-	Discharge Disposition	
37	25	CM	O	N	-	Discharged to Location	
38	250	CE	O	N	-	Diet Type	
39	2	IS	O	N	-	Servicing Facility	
40	1	ID	B	N	-	Bed Status	
41	2	IS	O	N	-	Account Status	
42	80	PL	O	N	-	Pending Location	
43	80	PL	O	N	-	Prior Temporary Location	
44	26	TS	O	N	-	Admit Date/Time	
45	26	TS	O	N	Y	Discharge Date/Time	
46	12	NM	O	N	-	Current Patient Balance	
47	12	NM	O	N	-	Total Charges	
48	12	NM	O	N	-	Total Adjustments	
49	12	NM	O	N	-	Total Payments	
50	250	CX	O	N	-	Alternate Visit ID	
51	1	IS	O	N	-	Visit Indicator	

52	250	XCN	B	N	Y	Other Healthcare Provider	

Table 6. Register a patient message: PV1 segment

The field definition of an indispensable setup in PV1 segment and an arbitrary setup is shown below.

PV1-2. Patient Class

Value	Description
<Patient class>	Patient class: Reference of HL7Table0004 (Usually this field is not used)

PV1-3. Assigned Patient Location

Value	Description
<point of care (IS)>^<room (IS)>^<bed (IS)>^<facility (HD)>^<location status (IS)>^<person location type (IS)>^<building (IS)>^<floor (IS)>^<location description (ST)	The monitor name is set in <bed>. Internet Protocol address with the index number is set in <facility>. ex)^^BSM001^192.10.1.1:1 * SVM-7100 series / SVM-7500 series / SVM-7600 series refers to only bed ID set in <bed>.

7.2.1.5. Register a patient message: OBX segment

Here, the receipt of height, weight, and a blood type is assumed.

The OBX segment in a patient basic information response message consists of the following elements.

SEQ	LEN	DT	OPT	BSM/ SVM	RP/#	Element	Remarks
1	4	SI	O	O	-	Set ID - OBX	
2	2	ID	C	R	-	Value Type	
3	250	CE	R	R	-	Observation Identifier	
4	20	ST	C	N	-	Observation Sub-ID	
5	65536	*	C	R	Y	Observation Value	
6	250	CE	O	O	-	Units	
7	60	ST	O	N	-	References Range	
8	5	IS	O	N	Y/5	Abnormal Flags	
9	5	NM	O	N	-	Probability	
10	2	ID	O	N	Y	Nature of Abnormal Test	
11	1	ID	R	R	-	Observation Result Status	
12	26	TS	O	N	-	Date Last Observation Normal Value	
13	20	ST	O	N	-	User Defined Access Checks	
14	26	TS	O	N	-	Date/Time of the Observation	
15	250	CE	O	N	-	Producer's ID	
16	250	XCN	O	N	-	Responsible Observer	
17	250	CE	O	N	-	Observation Method	
18	22	EI	O	N	Y	Equipment Instance Identifier	
19	26	TS	O	N	-	Date/Time of the Analysis	

Table 7. Register a patient message: OBX segment

The field definition of an indispensable setup in OBX segment and an arbitrary setup is shown below.

OBX-1. Set ID

Value	Description
	This field contains the sequence number.

OBX-2. Value Type

Value	Description
	Value type: Reference of HL7Table0125
NM	Numeric
ST	String Data
The rest is omitted.	

OBX-3. Observation Identifier

Value	Description
<identifier (ST)>^<text (ST)>^<name of coding	Height, weight, blood type

system (IS)>^<alternate identifier (ST)>^<alternate text (ST)>^<name of alternate coding system (IS)>	The name should be given according to the NK definition. Height: 2522^Height Weight: 2523^Weight Blood type: 520^Blood

OBX-5. Observation Value

Value	Description
	The model specified by OBX-2 is followed. The height and weight are expressed by numeric values. The blood type is indicated by the following: A+, A-, B+, B-, O+, O-, AB+, and AB-.

OBX-6. Units

Value	Description
	The model specified by OBX-2 or OBX-5 is followed. The height and weight are expressed by cm and kg.

OBX-11. Observation Result Status

Value	Description
F	Order detail description only (no result) Reference of HL7Table0085

7.2.2. Patient Bed Admission Response - Response Message to Patient Information Registration: ACK^A04

No.	Segment	Segment Name	BSM / SVM	Remarks
1	MSH	Message Header Segment	R	MSH-9: ACK^A04
2	MSA	Message Acknowledgment Segment	R	
3	[ERR]	Error segment	N	

Table 8. Response message to patient information registration (ACK)

- Brackets [...] indicate that the enclosed group of segments is optional.

7.2.2.1. General Acknowledgment Message: MSH Segment

SEQ	LEN	DT	OPT	BSM/ SVM	RP/#	Element	Remarks
1	1	ST	R	R	-	Field Separator	|
2	4	ST	R	R	-	Encoding Characters	^~\&
3	180	HD	O	O	-	Sending Application	
4	180	HD	O	O	-	Sending Facility	
5	180	HD	O	O	-	Receiving Application	
6	180	HD	O	O	-	Receiving Facility	
7	26	TS	O	O	-	Date/Time of Message	
8	40	ST	O	N	-	Security	
9	13	CM	R	R	-	Message Type	ACK^A04^ACK
10	20	ST	R	R	-	Message Control ID	
11	3	PT	R	R	-	Processing ID	P
12	60	VID	R	R	-	Version ID	2.4
13	15	NM	O	N	-	Sequence Number	
14	180	ST	O	N	-	Continuation Pointer	
15	2	ID	O	R	-	Accept Acknowledgement Type	
16	2	ID	O	R	-	Application Acknowledgement Type	
17	3	ID	O	O	-	Country Code	
18	16	ID	O	O	Y	Character Set	
19	250	CE	O	N	-	Principal Language of Message	
20	20	ID	O	O	-	Alternate Character Set Handling Scheme	
21	10	ID	O	N	Y	Conformance Statement ID	

Table9. General Acknowledgment Message: MSH Segment

The field definition of an indispensable setup in MSH segment and an arbitrary setup is shown below.

MSH-1. Field Separator

Value	Description
| (fixed)	Separator between the fields

MSH-2. Encoding Characters

Value	Description
^~\& (fixed)	Component separator, repetitive separator, an escape character, subcomponent separator

MSH-3. Sending Application

Value	Description
<Sending Application>	(example) HL7Gateway *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-4. Sending Facility

Value	Description
<Institution>^<Section>	(example) NihonKohden *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-5. Receiving Application

Value	Description
<Receiving Application>	(example) HL7Client *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-6. Receiving Facility

Value	Description
<Institution>^<Section>	(example) Receiving Facility *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-7. Date/Time of Message

Value	Description
YYYYMMDDHHMMSS	Year/month/day/hour/minute/second (example) 20070401171823 (Usually this field is not used)

MSH-9. Message Type

Value	Description
ACK^A04^ACK (fixed)	<Message Type>^<Event Type> Message Type: Reference of HL7Table0076 Event Type: Reference of HL7Table0003

MSH-10. Message Control ID

Value	Description
YYYYMMDDNNNNNN	Year/Month/Day/Sequence Number (example) 20070401123456

MSH-11. Processing ID

Value	Description
P (fixed)	Production: Reference of HL7Table0103

MSH-12. Version ID

Value	Description
2.4 (fixed)	HL7 protocol version 2.4

MSH-15. Accept Acknowledgment

Value	Description
NE (fixed)	“necessary” The PCD TF requires that this field be valued as NE.

MSH-16. Application Acknowledgment

Value	Description
AL (fixed)	“always” The PCD TF requires that this field be valued as AL.

MSH-18. Character Set

Value	Description
ASCII	When the entire message is in ASCII code. * SVM-7100 series SVM-7100 series / SVM-7500 series / SVM-7600 series supports only ASCII.

MSH-20. Alternate Character Set Handling Scheme

Value	Description
ASCII	When the entire message is in ASCII code. * SVM-7100 series SVM-7100 series / SVM-7500 series / SVM-7600 series supports only ASCII.

7.2.2.2. General Acknowledgment Message: MSA Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	2	ID	R	R	-	Acknowledgment Code	
2	20	ST	R	R	-	Message Control ID	
3	80	ST	O	N	-	Text Message	
4	15	NM	O	N	-	Expected Sequence Number	
5	1	ID	B	N	-	Delayed Acknowledgment Type	
6	250	CE	O	N	-	Error Condition	

Table 10. General acknowledgment message: MSA segment

The field definition of an indispensable setup in MSA segment and an arbitrary setup is shown below.

MSA-1. Acknowledgment Code

Value	Description
	Reference of HL7Table0008
AA	Original mode: Application Accept Enhanced mode: Application acknowledgment: Accept
AE	Original mode: Application Error Enhanced mode: Application acknowledgment: Error

MSA-2. Message Control ID

Value	Description
	QRY^A04 MSH-10 This field contains the message control ID of the message sent by the sending system. It allows the sending system to associate this response with the message for which it is intended.

7.3. Patient Bed Discharge (Event A02)

7.3.1. Request for Patient Bed Discharge – Message about Patient Information Moving to Other Department or Building: ADT^A02

No.	Segment	Segment	BSM / SVM	Remarks
1	MSH	Message Header	R	
2	EVN	Event Type	R	
3	PID	Patient Identification	R	
4	[PD1]	Additional Demographics	N	
5	[{ROL}]	Role	N	
6	PV1	Patient Visit	R	
7	[PV2]	Patient Visit – Additional Info.	N	
8	[{ROL}]	Role	N	
9	[{DB1}]	Disability Information	N	
10	[{OBX}]	Observation/Result	O	
11	[PDA]	Patient Death and Autopsy	N	

Table 11. Message about patient information moving to other department or building (ADT)

- Braces {...} indicate one or more repetitions of the enclosed group of segments.
- Brackets [...] indicate that the enclosed group of segments is optional.
- If a group of segments is optional and may repeat it should be enclosed in brackets and braces {[...]}.

7.3.1.1. Message about Patient Information Moving to Other Department or Building: MSH Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	1	ST	R	R	-	Field Separator	|
2	4	ST	R	R	-	Encoding Characters	^~\&
3	180	HD	O	O	-	Sending Application	
4	180	HD	O	O	-	Sending Facility	
5	180	HD	O	O	-	Receiving Application	
6	180	HD	O	O	-	Receiving Facility	
7	26	TS	O	O	-	Date/Time of Message	
8	40	ST	O	N	-	Security	
9	13	CM	R	R	-	Message Type	ADT^A02^ADT_A02
10	20	ST	R	R	-	Message Control ID	
11	3	PT	R	R	-	Processing ID	P
12	60	VID	R	R	-	Version ID	2.4
13	15	NM	O	N	-	This field contains the sequence number.	
14	180	ST	O	N	-	Continuation Pointer	
15	2	ID	O	R	-	Accept Acknowledgement Type	
16	2	ID	O	R	-	Application Acknowledgement Type	
17	3	ID	O	N	-	Country Code	
18	16	ID	O	O	Y	Character Set	
19	250	CE	O	N	-	Principal Language of Message	
20	20	ID	O	O	-	Alternate Character Set Handling Scheme	
21	10	ID	O	N	Y	Conformance Statement ID	

Table 12. Message about patient information moving to other department or building: MSH segment

The field definition of an indispensable setup in MSH segment and an arbitrary setup is shown below.

MSH-1. Field Separator

Value	Description
| (fixed)	Separator between the fields

MSH-2. Encoding Characters

Value	Description
^~\& (fixed)	Component separator, repetitive separator, an escape character, subcomponent separator

MSH-3. Sending Application

Value	Description
<Sending Application>	(example) HL7Gateway * In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-4. Sending Facility

Value	Description
<Institution>^<Section>	(example) NihonKohden * In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-5. Receiving Application

Value	Description
<Receiving Application>	(example) HL7Client * In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-6. Receiving Facility

Value	Description
<Institution>^<Section>	(example) Receiving Facility * In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-7. Date/Time of Message

Value	Description
YYYYMMDDHHMMSS	Year/month/day/hour/minute/second (example) 20010131171823

MSH-9. Message Type

Value	Description
ADT^A02^ADT_A02	<Message Type>^<Event Type> Message Type: Reference of HL7Table0076 Event Type: Reference of HL7Table0003

MSH-10. Message Control ID

Value	Description
YYYYMMDDNNNNNN	Year/Month/Day/Sequence Number (example) 20010131123456

MSH-11. Processing ID

Value	Description
P (fixed)	Production: Reference of HL7Table0103

MSH-12. Version ID

Value	Description
2.4 (fixed)	HL7 protocol version 2.4

MSH-15. Accept Acknowledgment

Value	Description
NE (fixed)	“necessary” The PCD TF requires that this field be valued as NE.

MSH-16. Application Acknowledgment

Value	Description
AL (fixed)	“always” The PCD TF requires that this field be valued as AL.

MSH-18. Character Set

Value	Description
ASCII	When the entire message is in ASCII code. * SVM-7100 series / SVM-7500 series / SVM-7600 series supports only ASCII.

MSH-20. Alternate Character Set Handling Scheme

Value	Description
ASCII	When the entire message is in ASCII code. * SVM-7100 series / SVM-7500 series / SVM-7600 series supports only ASCII.

7.3.1.2. Message about Patient Information Moving to Other Department or Building: EVN Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element name	Remarks
1	3	ID	B	B	-	Event Type Code	
2	26	TS	R	R	-	Recorded Data/Time	
3	26	TS	O	O	-	Date/Time Planned Event	
4	3	IS	O	R	-	Event Reason Code	
5	250	XCN	O	O	Y	Operator ID	
6	26	TS	O	O	-	Event Occurred	
7	180	HD	O	O	-	Event Facility	

Table 13. Message about patient information moving to other department or building: EVN segment

The field definition of an indispensable setup in EVN segment and an arbitrary setup is shown below.

EVN-1. Event Type Code

Value	Description
	This exists only for compatibility with previous HL7 versions. It is recommended to use the second component of MSH-9. (Not used in reception mode)

EVN-2. Recorded Data/Time

Value	Description
YYYYMMDDhhmmss	Date/time of the system (Not used in reception mode)

EVN-4. Event Reason Code

Value	Description
02	Physician/health practitioner order (Not used in reception mode)

7.3.1.3. Message about Patient Information Moving to Other Department or Building: PID Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	4	SI	O	N	-	Set ID (Sequence No.)	
2	20	CX	B	N	-	Patient ID (External ID)	
3	250	CX	R	R	Y	Patient ID List	
4	20	ST	O	N	Y	Alternate Patient ID - PID	
5	250	XPN	R	R	Y	Patient Name	
6	250	XPN	O	N	-	Mother's Maiden Name	
7	26	TS	O	R	-	Date/Time of Birth	
8	1	IS	O	R	-	Sex	
9	250	XPN	B	N	Y	Patient Alias	
10	250	CE	O	N	-	Race	
11	250	XAD	O	N	Y	Patient Address	
12	4	IS	O	N	-	County Code	
13	250	XTN	O	N	Y	Phone Number - Home	
14	250	XTN	O	N	Y	Phone Number - Business	
15	250	CE	O	N	-	Primary Language	
16	250	CE	O	N	-	Marital Status	
17	250	CE	O	N	-	Religion	
18	250	CX	O	N	-	Patient Account Number	
19	16	ST	B	N	-	SSN Number - Patient	
20	25	DLN	O	N	-	Driver's License Number - Patient	
21	250	CX	O	N	-	Mother's Identifier	
22	250	CE	O	N	-	Ethnic Group	
23	250	ST	O	N	-	Birth Place	
24	1	ID	O	N	-	Multiple Birth Indicator	
25	2	NM	O	N	-	Birth Order	
26	250	CE	O	N	-	Citizenship	
27	250	CE	O	N	-	Veterans Military Status	
28	250	CE	O	N	-	Nationality	
29	26	TS	O	N	-	Patient Death Date and Time	
30	1	ID	O	N	-	Patient Death Indicator	
31	1	ID	O	N	-	Identity Unknown Indicator	
32	20	IS	O	N	Y	Identity Reliability Code	
33	26	TS	O	N	-	Last Update Date/Time	
34	40	HD	O	N	-	Last Update Facility	
35	250	CE	C	N	-	Species Code	
36	250	CE	C	N	-	Breed Code	
37	80	ST	O	N	-	Strain	
38	250	CE	O	N	-	Production Class Code	

Table 14. Message about patient information moving to other department or building: PID segment

The field definition of an indispensable setup in PID segment and an arbitrary setup is shown below.

PID-3. Patient ID (Internal ID)

Value	Description
<Patient ID>	

PID-5. Patient Name

Value	Description
<family name (ST)>^<given name (ST)>^<middle initial or name (ST)>^<suffix (e.g., JR or III) (ST)>^<prefix (e.g., DR) (ST)>^<degree (e.g., MD) (IS)>^<name type code (ID)> ^<name representation code (ID)>	Name type code: Reference of HL7Table0200 Name representation code: Reference of HL7Table0465

PID-7. Date/Time of Birth

Value	Description
YYYYMMDD〔HHMM〔SS〕〕	Year/month/day/hour/minute/second (example) 20010131171823

PID-8. Sex

Value	Description
<Sex>	Reference of HL7Table0001
F	Female
M	Male
O	Other
U	Unknown

Even if information on PID segment is sent from HIS, everything is disregarded.

7.3.1.4. Message About Patient Information Moving to Other Department or Building: PV1 Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	4	SI	O	N	-	Set ID - PV1	
2	1	IS	R	R	-	Patient Class	
3	80	PL	O	R	-	Assigned Patient Location	
4	2	IS	O	N	-	Admission Type	
5	250	CX	O	N	-	Preadmit Number	
6	80	PL	O	N	-	Prior Patient Location	
7	250	XCN	O	N	Y	Attending Doctor	
8	250	XCN	O	N	Y	Referring Doctor	
9	250	XCN	B	N	Y	Consulting Doctor	
10	3	IS	O	N	-	Hospital Service	
11	80	PL	O	N	-	Temporary Location	
12	2	IS	O	N	-	Preadmit Test Indicator	
13	2	IS	O	N	-	Re-admission Indicator	
14	6	IS	O	N	-	Admit Source	
15	2	IS	O	N	Y	Ambulatory Status	
16	2	IS	O	N	-	VIP Indicator	
17	250	XCN	O	N	Y	Admitting Doctor	
18	2	IS	O	N	-	Patient Type	
19	250	CN	O	N	-	Visit Number	
20	50	FC	O	N	Y	Financial Class	
21	2	IS	O	N	-	Charge Price Indicator	
22	2	IS	O	N	-	Courtesy Code	
23	2	IS	O	N	-	Credit Rating	
24	2	IS	O	N	Y	Contract Code	
25	8	DT	O	N	Y	Contract Effective Date	
26	12	NM	O	N	Y	Contract Amount	
27	3	NM	O	N	Y	Contract Period	
28	2	IS	O	N	-	Interest Code	
29	1	IS	O	N	-	Transfer to Bad Debt Code	
30	8	DT	O	N	-	Transfer to Bad Debt Date	
31	10	IS	O	N	-	Bad Debt Agency Code	
32	12	NM	O	N	-	Bad Debt Transfer Amount	
33	12	NM	O	N	-	Bad Debt Recovery Amount	
34	1	IS	O	N	-	Delete Account Indicator	
35	8	DT	O	N	-	Delete Account Date	
36	3	IS	O	N	-	Discharge Disposition	
37	25	CM	O	N	-	Discharged to Location	
38	250	CE	O	N	-	Diet Type	
39	2	IS	O	N	-	Servicing Facility	
40	1	ID	B	N	-	Bed Status	
41	2	IS	O	N	-	Account Status	
42	80	PL	O	N	-	Pending Location	
43	80	PL	O	N	-	Prior Temporary Location	
44	26	TS	O	N	-	Admit Date/Time	
45	26	TS	O	N	Y	Discharge Date/Time	
46	12	NM	O	N	-	Current Patient Balance	
47	12	NM	O	N	-	Total Charges	
48	12	NM	O	N	-	Total Adjustments	

49	12	NM	O	N	-	Total Payments	
50	250	CX	O	N	-	Alternate Visit ID	
51	1	IS	O	N	-	Visit Indicator	
52	250	XCN	B	N	Y	Other Healthcare Provider	

Table 15. Message about patient information moving to other department or building: PV1 segment

The field definition of an indispensable setup in PV1 segment and an arbitrary setup is shown below.

PV1-2. Patient Class

Value	Description
<Patient class>	Reference of HL7Table0004 (Usually this field is not used)

PV1-3. Assigned Patient Location

Value	Description
<point of care (IS)>^<room (IS)>^<bed (IS)>^<facility (HD)>^<location status (IS)>^<person location type (IS)>^<building (IS)>^<floor (IS)>^<location description (ST)>	The monitor name is set in <bed>. Internet Protocol address with the index number is set in <facility>. ex)^^BSM001^192.10.1.1:1 * SVM-7100 series / SVM-7500 series / SVM-7600 series refers to only bed ID set in <bed>.

7.3.1.5. Message about Patient Information Moving to Other Department or Building: OBX Segment

Here, the receipt of height, weight, and a blood type is assumed.

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	4	SI	O	O	-	Set ID - OBX	
2	2	ID	C	R	-	Value Type	
3	250	CE	R	R	-	Observation Identifier	
4	20	ST	C	N	-	Observation Sub-ID	
5	65536	*	C	R	Y	Observation Value	
6	250	CE	O	O	-	Units	
7	60	ST	O	N	-	References Range	
8	5	IS	O	N	Y/5	Abnormal Flags	
9	5	NM	O	N	-	Probability	
10	2	ID	O	N	Y	Nature of Abnormal Test	
11	1	ID	R	R	-	Observation Result Status	
12	26	TS	O	N	-	Date Last Observation Normal Value	
13	20	ST	O	N	-	User Defined Access Checks	
14	26	TS	O	N	-	Observation date/time	
15	250	CE	O	N	-	Producer's ID	
16	250	XCN	O	N	-	Responsible Observer	
17	250	CE	O	N	-	Observation Method	
18	22	EI	O	N	Y	Equipment Instance Identifier	
19	26	TS	O	N	-	Date/Time of the Analysis	

Table 16. Message about patient information moving to other department or building: OBX segment

The field definition of an indispensable setup in OBX segment and an arbitrary setup is shown below.

OBX-1. SET ID - OBX

Value	Description
	This field contains the sequence number.

OBX-2. Value type

Value	Description
<Value type>	Reference of HL7Table0125
NM	Numeric
ST	String Data

OBX-3. Observation Identifier

Value	Description
<identifier (ST)>^<text (ST)>^<name of coding system (IS)>^<alternate identifier (ST)>^<alternate text (ST)>^<name of alternate coding system (IS)>	Height, weight, blood type The name should be given according to the NK definition. Height: 2522^Height Weight: 2523^Weight Blood type: 520^Blood

OBX-5. Observation Value

Value	Description
	The model specified by OBX-2 is followed. The height and weight are expressed by numeric values. The blood type is indicated by the following: A+, A-, B+, B-, O+, O-, AB+, and AB-.

OBX-6. Units

Value	Description
	The model specified by OBX-2 or OBX-5 is followed. The height and weight are expressed by cm and kg.

OBX-11. Observation Result Status

Value	Description
	Order detail description only (no result) Reference of HL7Table0085

7.3.2. Patient Bed Discharge Response - Response Message about Patient Information Moving to Other Department or Building: ACK^A02

No.	Segment	Segment Name	BSM / SVM	remarks
1	MSH	Message Header Segment	R	MSH-9: ACK^A02
2	MSA	Message Acknowledgment Segment	R	
3	[ERR]	Error segment	N	

Table 17. Response message about patient information moving to other department or building (ACK)

- Brackets [...] indicate that the enclosed group of segments is optional.

7.3.2.1. Response to Patient Information Moving to Other Department or Building: MSH Segment

SEQ	LEN	DT	OPT	BSM/ SVM	RP/#	Element	Remarks
1	1	ST	R	R	-	Field Separator	|
2	4	ST	R	R	-	Encoding Characters	^~\&
3	180	HD	O	O	-	Sending Application	
4	180	HD	O	O	-	Sending Facility	
5	180	HD	O	O	-	Receiving Application	
6	180	HD	O	O	-	Receiving Facility	
7	26	TS	O	O	-	Date/Time of Message	
8	40	ST	O	N	-	Security	
9	13	CM	R	R	-	Message Type	ACK^A02^ACK
10	20	ST	R	R	-	Message Control ID	
11	3	PT	R	R	-	Processing ID	P
12	60	VID	R	R	-	Version ID	2.4
13	15	NM	O	N	-	This field contains the sequence number.	
14	180	ST	O	N	-	Continuation Pointer	
15	2	ID	O	R	-	Accept Acknowledgement Type	
16	2	ID	O	R	-	Application Acknowledgement Type	
17	3	ID	O	O	-	Country Code	
18	16	ID	O	O	Y	Character Set	
19	250	CE	O	N	-	Principal Language of Message	
20	20	ID	O	O	-	Alternate Character Set Handling Scheme	
21	10	ID	O	N	Y	Conformance Statement ID	

Table 18. Response message about patient information moving to other department or building: MSH segment

The field definition of an indispensable setup in MSH segment and an arbitrary setup is shown below.

MSH-1. Field Separator

Value	Description
| (fixed)	Separator between the fields

MSH-2. Encoding Characters

Value	Description
^~\& (fixed)	Component separator, repetitive separator, an escape character, subcomponent separator

MSH-3. Sending Application

Value	Description
<Sending Application>	(example) HL7Gateway * In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-4. Sending Facility

Value	Description
<Institution>^<Section>	(example) NihonKohden * In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-5. Receiving Application

Value	Description
<Receiving Application>	(example) HL7Client * In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-6. Receiving Facility

Value	Description
<Institution>^<Section>	(example) Receiving Facility * In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-7. Date/Time of Message

Value	Description
YYYYMMDDHHMMSS	Year/month/day/hour/minute/second (example) 20010131171823

MSH-9. Message Type

Value	Description
ACK^A02^ ACK (fixed)	<Message Type>^<Event Type> Message Type: Reference of HL7Table0076 Event Type: Reference of HL7Table0003

MSH-10. Message Control ID

Value	Description
YYYYMMDDNNNNNN	Year/Month/Day/Sequence Number (example) 20010131123456

MSH-11. Processing ID

Value	Description
P (fixed)	Production: Reference of HL7Table0103

MSH-12. Version ID

Value	Description
2.4 (fixed)	HL7 protocol version 2.4

MSH-15. Accept Acknowledgment

Value	Description
NE (fixed)	“necessary” The PCD TF requires that this field be valued as NE.

MSH-16. Application Acknowledgment

Value	Description
AL (fixed)	“always” The PCD TF requires that this field be valued as AL.

MSH-18. Character Set

Value	Description
ASCII	When the entire message is in ASCII code. *SVM-7100 series / SVM-7500 series / SVM-7600 series supports only ASCII.

MSH-20. Alternate Character Set Handling Scheme

Value	Description
ASCII	When the entire message is in ASCII code. *SVM-7100 series / SVM-7500 series / SVM-7600 series supports only ASCII.

7.3.2.2. Response to Patient Information Moving to Other Department or Building: MSA Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	2	ID	R	R	-	Acknowledgment Code	
2	20	ST	R	R	-	Message Control ID	
3	80	ST	O	N	-	Text Message	
4	15	NM	O	N	-	Expected Sequence Number	
5	1	ID	B	N	-	Delayed Acknowledgment Type	
6	250	CE	O	N	-	Error Condition	

Table 19. Response message about patient information moving to other department or building: MSA segment

The field definition of an indispensable setup in MSA segment and an arbitrary setup is shown below.

MSA-1. Acknowledgment Code

Value	Description
	Reference of HL7Table0008
AA	Original mode: Application Accept Enhanced mode: Application acknowledgment: Accept
AE	Original mode: Application Error Enhanced mode: Application acknowledgment: Error

MSA-2. Message Control ID

Value	Description
	MSH-10 in ADT message Definition: This field contains the message control ID of the message sent by the sending system. It allows the sending system to associate this response with the message for which it is intended.

7.4. Patients-in-bed Query (QRY/ORF: Event R02/R04)

7.4.1 Request for Query of Patients in Bed - Message about Observation Result Query: QRY^R02

No.	Segment	Segment	HL7 G/W	Remarks
1	MSH	Message Header	R	
2	QRD	Query Definition	R	
3	QRF	Query Filter	O	

Table 20. Message about query and original mode (QRY^R02)

7.4.1.1. Message about Observation Result Query: MSH Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element name	Remarks
1	1	ST	R	R	-	Field Separator	|
2	4	ST	R	R	-	Encoding Characters	^~\&
3	180	HD	O	O	-	Sending Application	
4	180	HD	O	O	-	Sending Facility	
5	180	HD	O	O	-	Receiving Application	
6	180	HD	O	O	-	Receiving Facility	
7	26	TS	O	O	-	Date/Time of Message	
8	40	ST	O	N	-	Security	
9	13	CM	R	R	-	Message Type	QRY^R02^QRY_R02
10	20	ST	R	R	-	Message Control ID	
11	3	PT	R	R	-	Processing ID	P
12	60	VID	R	R	-	Version ID	2.4
13	15	NM	O	N	-	This field contains the sequence number.	
14	180	ST	O	N	-	Continuation Pointer	
15	2	ID	O	R	-	Accept Acknowledgement Type	
16	2	ID	O	R	-	Application Acknowledgement Type	
17	3	ID	O	N	-	Country Code	
18	16	ID	O	O	Y	Character Set	
19	250	CE	O	N	-	Principal Language of Message	
20	20	ID	O	O	-	Alternate Character Set Handling Scheme	
21	10	ID	O	N	Y	Conformance Statement ID	

Table 21. Message about observation result query: MSH segment

The field definition of an indispensable setup in MSH segment and an arbitrary setup is shown below.

MSH-1. Field Separator

Value	Description
| (fixed)	Separator between the fields

MSH-2. Encoding Characters

Value	Description
^~\& (fixed)	Component separator, repetitive separator, an escape character, subcomponent separator

MSH-3. Sending Application

Value	Description
<Sending Application>	(example) HL7Client * In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-4. Sending Facility

Value	Description
<Institution>^<Section>	(example) Receiving Facility * In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-5. Receiving Application

Value	Description
<Receiving Application>	(example) HL7Gateway * In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-6. Receiving Facility

Value	Description
<Institution>^<Section>	(example) NihonKohden * In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-7. Date/Time of Message

Value	Description
YYYYMMDDHHMMSS	Year/month/day/hour/minute/second (example) 20070401171823 (Usually this field is not used)

MSH-9. Message Type

Value	Description
QRY^R02^QRY_R02 (fixed)	Message Type: Reference of HL7Table0076 Event Type: Reference of HL7Table0003

MSH-10. Message Control ID

Value	Description
YYYYMMDDNNNNNN	Year/Month/Day/Sequence Number (example) 20070401123456

MSH-11. Processing ID

Value	Description
P (fixed)	Production: Reference of HL7Table0103

MSH-12. Version ID

Value	Description
2.4 (fixed)	HL7 protocol version 2.4

MSH-15. Accept Acknowledgment

Value	Description
NE (fixed)	“necessary” The PCD TF requires that this field be valued as NE.

MSH-16. Application Acknowledgment

Value	Description
AL (fixed)	“always” The PCD TF requires that this field be valued as AL.

MSH-18. Character Set

Value	Description
ASCII	When the entire message is in ASCII code. * SVM-7100 series / SVM-7500 series / SVM-7600 series supports only ASCII.

MSH-20. Alternate Character Set Handling Scheme

Value	Description
ASCII	When the entire message is in ASCII code. * SVM-7100 series / SVM-7500 series / SVM-7600 series supports only ASCII.

7.4.1.2. Message about Observation Result Query: QRD Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element name	Remarks
1	26	TS	R	R	-	Query Date / Time	
2	1	ID	R	R	-	Query Format Code	R
3	1	ID	R	R	-	Query Priority	I
4	10	ST	R	R	-	Query ID	
5	1	ID	O	N	-	Deferred Response Type	
6	26	TS	O	N	-	Deferred Response Date/Time	
7	10	CQ	R	R	-	Quantity Limited Request	RD^1
8	250	XCN	R	R	Y	Who Subject Filter	
9	250	CE	R	R	Y	What Subject Filter	
10	250	CE	R	R	Y	What Department Data Code	
11	20	ST	O	N	Y	What Data Code Value Qual	
12	1	ID	O	N	-	Query Results Level	

Table 22. Message about observation result query: QRD segment

The field definition of an indispensable setup in QRD segment and an arbitrary setup is shown below.

QRD-1. Query Date/Time

Value	Description
YYYYMMDDHHMMSS	Year/month/day/hour/minute/second (example) 20070401171823

QRD-2. Query Format Code

Value	Description
R (fixed)	Response is in record-oriented format: Reference of HL7Table0106

QRD-3. Query Priority

Value	Description
I (fixed)	Immediate: Reference of HL7Table0091

QRD-4. Query ID

Value	Description
Directory^Patients	ID that identifies a list of patients in bed on the monitor connected

* The Patients-in-bed query uses a dedicated port. QRD-4 ”Query ID” is not seen.

QRD-7. Quantity Limited Request

Value	Description
RD^1 (fixed)	Records: Reference of HL7Table0126

QRD-8. Who Subject Filter

Value	Description
<Patient ID number (ST)>^<family name (ST)>^<given name (ST)> ^<middle initial or name (ST)> ^<suffix (e.g., JR or III) (ST)> ^<prefix (e.g., DR) (ST)> ^<degree (e.g., MD) (IS)> ^<source table (IS)> ^<assigning authority (HD)> ^<name type code(ID)> ^<code identifying the check digit scheme employed (ID)> ^<identifier type code (IS)> ^<assigning facility (HD)>	A candidate patient is set up. Set '*' in <Patient ID number>.

QRD-9. What Subject Filter

Value	Description
APN (fixed)	Patient name lookup: Reference of HL7Table0048

QRD-10. What Department Data Code

Value	Description
<identifier (ID)>^<text (ST)> ^<name of coding system (ST)> ^<alternate identifier (ID)> ^<alternate text (ST)> ^<name of alternate coding system (ST)>	(Usually this field is not used)

7.4.1.3 Message about Observation Result Query: QRF segments

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element name	Remarks
1	20	ST	R	R	Y	Where Subject Filter	
2	26	TS	B	N	-	When Data Start Date/Time	
3	26	TS	B	N	-	When Data End Date/Time	
4	60	ST	O	N	Y	What User Qualifier	
5	60	ST	O	N	Y	Other QRY Subject Filter	
6	12	ID	O	N	Y	Which Date/Time Qualifier	
7	12	ID	O	N	Y	Which Date/Time Status Qualifier	
8	12	ID	O	N	Y	Date/Time Selection Qualifier	
9	60	TQ	O	O	-	When Quantity/Timing Qualifier	
10	10	NM	O	N	-	Search Confidence Threshold	

Table 23. Message about observation result query: QRF segment

The field definition of an indispensable setup in QRF segment and an arbitrary setup is shown below.

QRF-1. Where Subject Filter

Value	Description
	This field identifies the system or subsystem to which the query pertains. (Not used)

QRF-9. When Quantity/Timing Qualifier

Value	Description
<quantity (CQ)>^<interval (CM)>^<duration (CM)>^<start date/time (TS)>^<end date/time (TS)>^<priority (ST)>^<condition (ID)>^<text (TX)>^<conjunction (ID)>^<order sequencing (CM)>^<occurrence duration (CE)>^<total occurrences (NM)>	(Not used)

7.4.2. Query and Response of Patients in Bed: Message about Observation Result Response: ORF^R04

No.	Segment	Segment Name	BSM / SVM	Remarks
1	MSH	Message Header Segment	R	
2	MSA	Message Acknowledgment	R	
3	QRD	Query Definition	R	
4	[QRF]	Query Filter	N	
	{			
	[			
5	PID	Patient ID	R	
6	[{NTE}]	Notes and Comments	N	
	]			
	{			
7	[ORC]	Common Order	R	
8	OBR	Observation request	R	
9	{[NTE]}	Notes and Comments	N	
10	[CTD]	Notes and Comments	N	
	{			
11	[OBX]	Observation/Result	R	
12	{[NTE]}	Notes and Comments	N	
	}			
13	{[CTI]}	Clinical Trial Identification	N	
	}}			
14	[ERR]	Error	N	
15	[QAK]	Query Acknowledgement	N	
16	[DSC]	Continuation Pointer	N	

Table 24. Message about observation result response: ORF

- Braces {...} indicate one or more repetitions of the enclosed group of segments.
- Brackets [...] indicate that the enclosed group of segments is optional.
- If a group of segments is optional and may repeat it should be enclosed in brackets and braces {[...]}.

7.4.2.1 Response Message: MSH segments

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	1	ST	R	R	-	Field Separator	|
2	4	ST	R	R	-	Encoding Characters	^~\&
3	180	HD	O	O	-	Sending Application	
4	180	HD	O	O	-	Sending Facility	
5	180	HD	O	O	-	Receiving Application	
6	180	HD	O	O	-	Receiving Facility	
7	26	TS	O	O	-	Date/Time of Message	
8	40	ST	O	N	-	Security	
9	13	CM	R	R	-	Message Type	ORF^R04^ORF_R04
10	20	ST	R	R	-	Message Control ID	
11	3	PT	R	R	-	Processing ID	P
12	60	VID	R	R	-	Version ID	2.4
13	15	NM	O	N	-	This field contains the sequence number.	
14	180	ST	O	N	-	Continuation Pointer	
15	2	ID	O	R	-	Accept Acknowledgement Type	
16	2	ID	O	R	-	Application Acknowledgement Type	
17	3	ID	O	O	-	Country Code	
18	16	ID	O	O	Y	Character Set	ASCII
19	250	CE	O	N	-	Principal Language of Message	
20	20	ID	O	O	-	Alternate Character Set Handling Scheme	ASCII
21	10	ID	O	N	Y	Conformance Statement ID	

Table 25. Message about observation result response: MSH segments

The field definition of an indispensable setup in MSH segment and an arbitrary setup is shown below.

MSH-1. Field Separator

Value	Description
| (fixed)	Separator between the fields

MSH-2. Encoding Characters

Value	Description
^~\& (fixed)	Component separator, repetitive separator, an escape character, subcomponent separator

MSH-3. Sending Application

Value	Description
<Sending Application>	(example) HL7Gateway *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-4. Sending Facility

Value	Description
<Institution>^<Section>	(example) NihonKohden *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-5. Receiving Application

Value	Description
<Receiving Application>	(example) HL7Client *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION.

MSH-6. Receiving Facility

Value	Description
<Institution>^<Section>	(example) Receiving Facility *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-7. Date/Time of Message

Value	Description
YYYYMMDDHHMMSS	Year/month/day/hour/minute/second (example) 20070401171823 (Usually this field is not used)

MSH-9. Message Type

Value	Description
ORF^R04^ORF_R04 (fixed)	<Message Type>^<Event Type> Message Type: Reference of HL7Table0076 Event Type: Reference of HL7Table0003

MSH-10. Message Control ID

Value	Description
<Message Control ID>	ID of the partner system rule The message control ID of MSH-10 in QRY^R02 is returned.

MSH-11. Processing ID

Value	Description
P (fixed)	Production: Reference of HL7Table0103

MSH-12. Version ID

Value	Description
2.4 (fixed)	HL7 protocol version 2.4

MSH-15. Accept Acknowledgment

Value	Description
NE (fixed)	“necessary” The PCD TF requires that this field be valued as NE.

MSH-16. Application Acknowledgment

Value	Description
AL (fixed)	“always” The PCD TF requires that this field be valued as AL.

MSH-18. Character Set

Value	Description
ASCII	When the entire message is in ASCII code. * SVM-7100 series / SVM-7500 series / SVM-7600 series supports only ASCII.

MSH-20. Alternate Character Set Handling Scheme

Value	Description
ASCII	When the entire message is in ASCII code. * SVM-7100 series / SVM-7500 series / SVM-7600 series supports only ASCII.

7.4.2.2 Response Message: MSA segments

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element name	Remarks
1	2	ID	R	R	-	Acknowledgment Code	
2	20	ST	R	R	-	Message Control ID	
3	80	ST	O	N	-	Text Message	
4	15	NM	O	N	-	Expected Sequence Number	
5	1	ID	B	N	-	Delayed Acknowledgment Type	
6	250	CE	O	O	-	Error Condition	

Table 26. Message about observation result information response: MSA segments

The field definition of an indispensable setup in MSH segment and an arbitrary setup is shown below.

MSA-1. Acknowledgment Code

Value	Description
<Acknowledgment Code>	Reference of HL7Table0008

MSA-2. Message Control ID

Value	Description
	Message control ID for the MSH-10 segment of a query message

MSA-6 Error condition

Value	Description
<identifier (ID)>^<text (ST)>^<name of coding system (ST)>^<alternate identifier (ID)>^<alternate text (ST)>^<name of alternate coding system (IS)>	This field allows the acknowledging system to use a user-defined error code to further specify AR or AE type acknowledgments.(Usually this field is not used) Refer to HL7Table0357: “Message Error Condition Codes”. When AE is set in MSA-1, this area is used.

7.4.2.3. Message about Observation Result Information Response: QRD Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	26	TS	R	R	-	Query Date/Time	
2	1	ID	R	R	-	Query Format Code	R
3	1	ID	R	R	-	Query Priority	I
4	10	ST	R	R	-	Query ID	
5	1	ID	O	N	-	Deferred Response Type	
6	26	TS	O	N	-	Deferred Response Date/Time	
7	10	CQ	R	R	Y	Quantity Limited Request	RD^1
8	250	XCN	R	R	Y	Who Subject Filter	
9	250	CE	R	R	Y	What Subject Filter	
10	250	CE	R	R	Y	What Department Data Code	
11	20	ST	O	N	-	What Data Code Value Qual	
12	1	ID	O	N	-	Query Results Level	

Table 27. Message about observation result information response: QRD segments

The field definition of an indispensable setup in QRD segment and an arbitrary setup is shown below.

QRD-1. Query Date/Time

Value	Description
YYYYMMDDHHMMSS	Year/month/day/hour/minute/second (example) 20070401171823

QRD-2. Query Format Code

Value	Description
R (fixed)	Response is in record-oriented format. Reference of HL7Table0106

QRD-3. Query Priority

Value	Description
I (fixed)	Immediate: Reference of HL7Table0091

QRD-4 Query ID

Value	Description
	The same as that specified in QRD-4 of QRY.

QRD-7. Quantity Limited Request

Value	Description
RD^1 (fixed)	Records: Reference of HL7Table0126

QRD-8. Who Subject Filter

Value	Description
<Patient ID number (ST)>^<family name (ST)>^<given name (ST)> ^<middle initial or name (ST)> ^<suffix (e.g., JR or III) (ST)> ^<prefix (e.g., DR) (ST)> ^<degree (e.g., MD) (IS)> ^<source table (IS)> ^<assigning authority (HD)> ^<name type code(ID)> ^<code identifying the check digit scheme employed (ID)> ^<identifier type code (IS)> ^<assigning facility (HD)>	Set the QRD-8 item of the QRY^R02 query. Set only <*>.

QRD-9. What Subject Filter

Value	Description
APN (fixed)	Patient name lookup: Reference of HL7Table0048

QRD-10. What Department Data Code

Value	Description
<identifier (ID)>^<text (ST)>^<name of coding system (ST)>^<alternate identifier (ID)>^<alternate text (ST)>^<name of alternate coding system (ST)>	(Usually this field is not used)

7.4.2.4 Response Message: PID segments

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element name	Remarks
1	4	SI	O	N	-	Set ID - Sequence No.	
2	20	CX	B	N	-	Patient ID (External ID)	
3	250	CX	R	R	Y	Patient ID List	
4	20	ST	O	N	Y	Alternate Patient ID - PID	
5	250	XPN	R	R	Y	Patient Name	
6	250	XPN	O	N	-	Mother's Maiden Name	
7	26	TS	O	R	-	Date/Time of Birth	
8	1	IS	O	R	-	Sex	
9	250	XPN	B	N	Y	Patient Alias	
10	250	CE	O	N	-	Race	
11	250	XAD	O	N	Y	Patient Address	
12	4	IS	O	N	-	County Code	
13	250	XTN	O	N	Y	Phone Number - Home	
14	250	XTN	O	N	Y	Phone Number - Business	
15	250	CE	O	N	-	Primary Language	
16	250	CE	O	N	-	Marital Status	
17	250	CE	O	N	-	Religion	
18	250	CX	O	N	-	Patient Account Number	
19	16	ST	B	N	-	SSN Number - Patient	
20	25	DLN	O	N	-	Driver's License Number - Patient	
21	250	CX	O	N	-	Mother's Identifier	
22	250	CE	O	N	-	Ethnic Group	
23	250	ST	O	N	-	Birth Place	
24	1	ID	O	N	-	Multiple Birth Indicator	
25	2	NM	O	N	-	Birth Order	
26	250	CE	O	N	-	Citizenship	
27	250	CE	O	N	-	Veterans Military Status	
28	250	CE	O	N	-	Nationality	
29	26	TS	O	N	-	Patient Death Date and Time	
30	1	ID	O	N	-	Patient Death Indicator	
31	1	ID	O	N	-	Identity Unknown Indicator	
32	20	IS	O	N	Y	Identity Reliability Code	
33	26	TS	O	N	-	Last Update Date/Time	
34	40	HD	O	N	-	Last Update Facility	
35	250	CE	C	N	-	Species Code	
36	250	CE	C	N	-	Breed Code	
37	80	ST	O	N	-	Strain	
38	250	CE	O	N	-	Production Class Code	

Table 28. Message about observation result information response: PID segments

The field definition of an indispensable setup in PID segment and an arbitrary setup is shown below.

PID-3. Patient ID (Internal ID)

Value	Description
*	

PID-5. Patient Name

Value	Description
<family name (ST)> ^<given name (ST)> ^<middle initial or name (ST)> ^<suffix (e.g., JR or III) (ST)> ^<prefix (e.g., DR) (ST)> ^<degree (e.g., MD) (IS)> ^<name type code (ID)> ^<name representation code (ID)>	Name type code: Reference of HL7Table0200 Name representation code: Reference of HL7Table0465 (Usually this field is not used)

PID-7. Date/Time of Birth

Value	Description
	Year/month/day/hour/minute/second YYYYLLDD(HHMM(SS)) (example) 20070401171823 (Usually this field is not used)

PID-8. Sex

Value	Description
<Sex>	Reference of HL7Table0001
F	Female
M	Male
O	Other
U	Unknown
	(Usually this field is not used)

7.4.2.5 Response Message: ORC segments

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	2	ID	R	R	N	Order Control	RE
2	22	EI	C	N	-	Placer Order Number	
3	22	EI	C	N	—	Filler Order Number	
4	22	EI	O	N	—	Placer Group Number	
5	2	ID	O	N	N	Order Status	
6	1	ID	O	N	-	Response Flag	
7	200	TQ	O	N	Y	Quantity/Timing	
8	200	CM	O	N	-	Parent	
9	26	TS	O	N		Date/Time of Transaction	
10	250	XCN	O	N	Y	Entered By	
11	250	XCN	O	N	Y	Verified By	
12	250	XCN	O	N	Y	Ordering Provider	
13	80	PL	O	N	-	Enterer's Location	
14	250	XTM	O	N	Y/2	Call Back Phone Number	
15	26	TS	O	N	-	Order Effective Date/Time	
16	250	CE	O	N	-	Order Control Code Reason	
17	250	CE	O	N	-	Entering Organization	
18	250	CE	O	N	-	Entering Device	
19	250	XCN	O	N	Y	Action By	
20	250	CE	O	N	-	Advanced Beneficiary Notice Code	
21	250	XON	O	N	Y	Ordering Facility Name	
22	250	XAD	O	N	Y	Ordering Facility Address	
23	250	XTN	O	N	Y	Ordering Facility Phone Number	
24	250	XAD	O	N	Y	Ordering Provider Address	
25	250	CWE	O	N	N	Order Status Modifier	

Table 29. Message about observation result information response: ORC segments

The field definition of an indispensable setup in ORC segment and an arbitrary setup is shown below.

ORC-1. Order Control

Value	Description
RE	Determines the function of the order segment. Refer to HL7Table0119

7.4.2.6 Response Message: OBR segments

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	4	SI	O	R	-	Set ID - OBR	
2	22	EI	C	N	-	Placer Order Number	
3	22	EI	C	N	—	Filler Order Number	
4	250	CE	R	R	—	Universal Service Identifier	
5	2	ID	B	N	—	Priority - OBR	
6	26	TS	B	N	-	Requested Date/Time	
7	26	TS	C	C	-	Observation date/time	
8	26	TS	O	N	-	Observation End Date/Time #	
9	20	CQ	O	N	-	Collection Volume *	
10	250	XCN	O	N	Y	Collector Identifier *	
11	1	ID	O	N	-	Specimen Action Code *	
12	250	CE	O	N	-	Danger Code	
13	300	ST	O	N	—	Relevant Clinical Info.	
14	26	TS	C	N	-	Specimen Received Date/Time *	
15	300	CM	O	O	-	Specimen Source *	
16	250	XCN	O	N	Y	Ordering Provider	
17	250	XTN	O	N	Y/2	Order Callback Phone Number	
18	60	ST	O	N	-	Placer Field 1	
19	60	ST	O	N	-	Placer Field 2	
20	60	ST	O	N	-	Filler Field 1 +	
21	60	ST	O	N	-	Filler Field 2 +	
22	26	TS	C	N	-	Results Rpt/Status Chng - Date/Time +	
23	40	CM	O	N	-	Charge to Practice +	
24	10	ID	O	N		Diagnostic Serv Sect ID	
25	1	ID	C	C	-	Result status	
26	400	CM	O	N	-	Parent Result +	
27	200	TQ	O	N	Y	Quantity/Timing	
28	250	XCN	O	N	Y/5	Result Copies To	
29	200	CM	O	N		Parent	
30	20	ID	O	N	-	Transportation Mode	
31	250	CE	O	N	Y	Reason for Study	
32	200	CM	O	N	-	Principal Result Interpreter +	
33	200	CM	O	N	Y	Assistant Result Interpreter +	
34	200	CM	O	N	Y	Technician +	
35	200	CM	O	N	Y	Transcriptionist +	
36	26	TS	O	N	-	Scheduled Date/Time +	
37	4	NM	O	N	-	Number of Sample Containers *	
38	250	CE	O	N	Y	Transport Logistics of Collected Sample *	
39	250	CE	O	N	Y	Collector's Comment *	
40	250	CE	O	N	-	Transport Arrangement Responsibility	
41	30	ID	O	N	-	Transport Arranged	
42	1	ID	O	N	-	Escort Required	
43	250	CE	O	N	Y	Planned Patient Transport Comment	
44	250	CE	O	N		Procedure Code	
45	250	CE	O	N	Y	Procedure Code Modifier	
46	250	CE	O	N	Y	Placer Supplemental Service Information	
47	250	CE	O	N	Y	Filler Supplemental Service Information	

Table 30. Message about Observation Result Information Response: OBR segments

The field definition of an indispensable setup in OBR segment and an arbitrary setup is shown below.

OBR-1. Set ID - OBR

Value	Description
	Sequence number

OBR-4. Universal Service Identifier

Value	Description
	Identifier is a code. Text is a name. The same one as QRD-4 of QRY is set.

OBR-7. Observation Date/time

Value	Description
YYYYMMDDHHMMSS	Year/month/day/hour/minute/second (example) 20070401171823

OBR-15. Specimen Source

Value	Description
Specimen Source (fixed)	

OBR-25. Result Status

Value	Description
A (fixed)	This field is the status of results for this order.

7.4.2.7 Response Message: OBX segments

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	4	SI	O	O	-	Set ID - OBX	
2	2	ID	C	R	-	Value Type	
3	250	CE	R	R	-	Observation Identifier	
4	20	ST	C	N	-	Observation Sub-ID	
5	65536	*	C	R	Y	Observation Value	
6	250	CE	O	O	-	Units	
7	60	ST	O	N	-	References Range	
8	5	IS	O	N	Y/5	Abnormal Flags	
9	5	NM	O	N	-	Probability	
10	2	ID	O	N	Y	Nature of Abnormal Test	
11	1	ID	R	R	-	Observation Result Status	
12	26	TS	O	N	-	Date Last Observation Normal Value	
13	20	ST	O	N	-	User Defined Access Checks	
14	26	TS	O	N	-	Observation date/time	
15	250	CE	O	N	-	Producer's ID	
16	250	XCN	O	N	-	Responsible Observer	
17	250	CE	O	N	-	Observation Method	
18	22	EI	O	N	Y	Equipment Instance Identifier	
19	26	TS	O	N	-	Date/Time of the Analysis	

Table 31. Message about observation result information response: OBX segments

The field definition of an indispensable setup in OBX segment and an arbitrary setup is shown below.

OBX-1. Set ID - OBX

Value	Description
	Sequence number

OBX-2. Value type

Value	Description
ST	Numeric String Data Reference of HL7Table0125

OBX-3. Observation Identifier

Value	Description
	The parameter code is set in <identifier> and the parameter name is set in <text>. The same one as QRD-4 of QRY is set.

OBX-5. Observation Value

Value	Description
<bed name>^<Internet Protocol address with the index number>^<Patient ID>	This field is used to set the list of patients in bed on the monitor side.

OBX-6. Units

Value	Description
	Sets the unit which is received from the monitor network or which is acquired from the bedside monitor.

OBX-11. Observation Result Status

Value	Description
O	Details of the request item Reference of HL7Table0085

OBX-14. Date/Time of Observation

Value	Description
YYYYMMDDHHMMSS	Date/time at which information is acquired Year/month/day/hour/minute/second (example) 20070401171823

7.5. Patient Information Updating ADT^A08/ ACK^A08

7.5.1. Patient Information Updating: Message about Patient Information Updating: ADT^A08

No.	Segment	Segment	BSM / SVM	Remarks
1	MSH	Message Header	R	
2	EVN	Event Type	R	
3	PID	Patient Identification	R	
4	[PD1]	Additional Demographics	N	
5	[{ROL}]	Role	N	
6	[{NK1}]	Next of Kin / Associated Parties	N	
7	PV1	Patient Visit	R	
8	[PV2]	Patient Visit – Additional Info.	N	
9	[{ROL}]	Role	N	
10	[{DB1}]	Disability Information	N	
11	[{OBX}]	Observation/Result	R	
12	[{AL1}]	Allergy Information	N	
13	[{DG1}]	Diagnosis Information	N	
14	[DRG]	Diagnosis Related Group	N	
	[{			
15	PR1	Procedures	N	
16	[{ROL}]	Role	N	
	}]			
17	[{GT1}]	Guarantor	N	
	[{			
18	IN1	Insurance	N	
19	[IN2]	Insurance Additional Info.	N	
20	[{IN3}]	Insurance Additional Info – Cert.	N	
21	[{ROL}]	Role	N	
	}]			
22	[ACC]	Accident Information	N	
23	[UB1]	Universal Bill Information	N	
24	[UB2]	Universal Bill 92 Information	N	
25	[PDA]	Patient Death and Autopsy	N	

Table 32. Message about patient information updating (ADT)

- Braces {...} indicate one or more repetitions of the enclosed group of segments.
- Brackets [...] indicate that the enclosed group of segments is optional.
- If a group of segments is optional and may repeat it should be enclosed in brackets and braces {[...]}.

7.5.1.1. Message about Patient Information Updating: MSH Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element name	Remarks
1	1	ST	R	R	-	Field Separator	|
2	4	ST	R	R	-	Encoding Characters	^~\&
3	180	HD	O	O	-	Sending Application	
4	180	HD	O	O	-	Sending Facility	
5	180	HD	O	O	-	Receiving Application	
6	180	HD	O	O	-	Receiving Facility	
7	26	TS	O	O	-	Date/Time of Message	
8	40	ST	O	N	-	Security	
9	13	CM	R	R	-	Message Type	ADT^A08^ ADT_A01
10	20	ST	R	R	-	Message Control ID	
11	3	PT	R	R	-	Processing ID	P
12	60	VID	R	R	-	Version ID	2.4
13	15	NM	O	N	-	This field contains the sequence number.	
14	180	ST	O	N	-	Continuation Pointer	
15	2	ID	O	R	-	Accept Acknowledgement Type	
16	2	ID	O	R	-	Application Acknowledgement Type	
17	3	ID	O	N	-	Country Code	
18	16	ID	O	O	Y	Character Set	
19	250	CE	O	N	-	Principal Language of Message	
20	20	ID	O	O	-	Alternate Character Set Handling Scheme	
21	10	ID	O	N	Y	Conformance Statement ID	

Table 33. Message about Patient Information Updating: MSH Segment

The field definition of an indispensable setup in MSH segment and an arbitrary setup is shown below.

MSH-1. Field Separator

Value	Description
| (fixed)	Separator between the fields

MSH-2. Encoding Characters

Value	Description
^~\& (fixed)	Component separator, repetitive separator, an escape character, subcomponent separator

MSH-3. Sending Application

Value	Description
<Sending Application>	(example) HL7Gateway *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-4. Sending Facility

Value	Description
<Institution>^<Section>	(example) NihonKohden *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-5. Receiving Application

Value	Description
<Receiving Application>	(example) HL7Client *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-6. Receiving Facility

Value	Description
<Institution>^<Section>	(example) Receiving Facility *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-7. Date/Time of Message

Value	Description
YYYYMMDDHHMMSS	Year/month/day/hour/minute/second (example) 20010131171823

MSH-9. Message Type

Value	Description
ADT^A08^ADT_A01	<Message Type>^<Event Type> Message Type: Reference of HL7Table0076 Event Type: Reference of HL7Table0003

MSH-10. Message Control ID

Value	Description
YYYYMMDDNNNNNN	Year/Month/Day/Sequence Number (example) 20010131123456

MSH-11. Processing ID

Value	Description
P (fixed)	Production: Reference of HL7Table0103

MSH-12. Version ID

Value	Description
2.4 (fixed)	HL7 protocol version 2.4

MSH-15 Accept ACKnowledgement Type

Value	Description
NE (fixing)	“necessary” The PCD TF requires that this field be valued as NE.

MSH-16 Application ACKnowledgement Type

Value	Description
AL (fixing)	“always” The PCD TF requires that this field be valued as AL.

MSH-18. Character Set

Value	Description
ASCII	When the entire message is in ASCII code. * SVM-7100 series / SVM-7500 series / SVM-7600 series supports only ASCII.

MSH-20. Alternate Character Set Handling Scheme

Value	Description
ASCII	When the entire message is in ASCII code. * SVM-7100 series / SVM-7500 series / SVM-7600 series supports only ASCII.

7.5.1.2. Message about Patient Information Updating: EVN Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element name	Remarks
1	3	ID	B	B	-	Event Type Code	
2	26	TS	R	R	-	Recorded Data/Time	
3	26	TS	O	O	-	Date/Time Planned Event	
4	3	IS	O	R	-	Event Reason Code	
5	250	XCN	O	O	Y	Operator ID	
6	26	TS	O	O	-	Event Occurred	
7	180	HD	O	O	-	Event Facility	

Table 34. Message about patient information updating: EVN segment

The field definition of an indispensable setup in EVN segment and an arbitrary setup is shown below.

EVN-1. Event Type Code

Value	Description
	This exists only for compatibility with previous HL7 versions. It is recommended to use the second component of MSH-9. (Not used in reception mode)

EVN-2. Recorded Data/Time

Value	Description
YYYYMMDDhhmmss	Date/time of the system (Not used in reception mode)

EVN-4. Event Reason Code

Value	Description
02	Physician/health practitioner order (Not used in reception mode)

7.5.1.3. Message about Patient Information Updating: PID Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	4	SI	O	N	-	Set ID (Sequence No.)	
2	20	CX	B	N	-	Patient ID (External ID)	
3	250	CX	R	R	Y	Patient ID List	
4	20	ST	O	N	Y	Alternate Patient ID - PID	
5	250	XPN	R	R	Y	Patient Name	
6	250	XPN	O	N	-	Mother's Maiden Name	
7	26	TS	O	R	-	Date/Time of Birth	
8	1	IS	O	R	-	Sex	
9	250	XPN	B	N	Y	Patient Alias	
10	250	CE	O	N	-	Race	
11	250	XAD	O	N	Y	Patient Address	
12	4	IS	O	N	-	County Code	
13	250	XTN	O	N	Y	Phone Number - Home	
14	250	XTN	O	N	Y	Phone Number - Business	
15	250	CE	O	N	-	Primary Language	
16	250	CE	O	N	-	Marital Status	
17	250	CE	O	N	-	Religion	
18	250	CX	O	N	-	Patient Account Number	
19	16	ST	B	N	-	SSN Number - Patient	
20	25	DLN	O	N	-	Driver's License Number - Patient	
21	250	CX	O	N	-	Mother's Identifier	
22	250	CE	O	N	-	Ethnic Group	
23	250	ST	O	N	-	Birth Place	
24	1	ID	O	N	-	Multiple Birth Indicator	
25	2	NM	O	N	-	Birth Order	
26	250	CE	O	N	-	Citizenship	
27	250	CE	O	N	-	Veterans Military Status	
28	250	CE	O	N	-	Nationality	
29	26	TS	O	N	-	Patient Death Date and Time	
30	1	ID	O	N	-	Patient Death Indicator	
31	1	ID	O	N	-	Identity Unknown Indicator	
32	20	IS	O	N	Y	Identity Reliability Code	
33	26	TS	O	N	-	Last Update Date/Time	
34	40	HD	O	N	-	Last Update Facility	
35	250	CE	C	N	-	Species Code	
36	250	CE	C	N	-	Breed Code	
37	80	ST	O	N	-	Strain	
38	250	CE	O	N	-	Production Class Code	

Table 35. Message about Patient Information Updating: PID Segment

The field definition of an indispensable setup in PID segment and an arbitrary setup is shown below.

PID-3. Patient ID (Internal ID)

Value	Description
<Patient ID>	

PID-5. Patient Name

Value	Description
<family name (ST)> ^<given name (ST)> ^<middle initial or name (ST)> ^<suffix (e.g., JR or III) (ST)> ^<prefix (e.g., DR) (ST)> ^<degree (e.g., MD) (IS)> ^<name type code (ID)> ^<name representation code (ID)>	Name type code: Reference of HL7Table0200 Name representation code: Reference of HL7Table0465

PID-7. Date/Time of Birth

Value	Description
YYYYMMDD(HHMM(SS))	Year/month/day/hour/minute/second (example) 20010131171823

PID-8. Sex

Value	Description
<Sex>	Reference of HL7Table0001
F	Female
M	Male
O	Other
U	Unknown

7.5.1.4. Message about Patient Information Updating: PV1 Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element name	Remarks
1	4	SI	O	N	-	Set ID - PV1	
2	1	IS	R	R	-	Patient Class	
3	80	PL	O	R	-	Assigned Patient Location	
4	2	IS	O	N	-	Admission Type	
5	250	CX	O	N	-	Preadmit Number	
6	80	PL	O	N	-	Prior Patient Location	
7	250	XCN	O	N	Y	Attending Doctor	
8	250	XCN	O	N	Y	Referring Doctor	
9	250	XCN	B	N	Y	Consulting Doctor	
10	3	IS	O	N	-	Hospital Service	
11	80	PL	O	N	-	Temporary Location	
12	2	IS	O	N	-	Preadmit Test Indicator	
13	2	IS	O	N	-	Re-admission Indicator	
14	6	IS	O	N	-	Admit Source	
15	2	IS	O	N	Y	Ambulatory Status	
16	2	IS	O	N	-	VIP Indicator	
17	250	XCN	O	N	Y	Admitting Doctor	
18	2	IS	O	N	-	Patient Type	
19	250	CN	O	N	-	Visit Number	
20	50	FC	O	N	Y	Financial Class	
21	2	IS	O	N	-	Charge Price Indicator	
22	2	IS	O	N	-	Courtesy Code	
23	2	IS	O	N	-	Credit Rating	
24	2	IS	O	N	Y	Contract Code	
25	8	DT	O	N	Y	Contract Effective Date	
26	12	NM	O	N	Y	Contract Amount	
27	3	NM	O	N	Y	Contract Period	
28	2	IS	O	N	-	Interest Code	
29	1	IS	O	N	-	Transfer to Bad Debt Code	
30	8	DT	O	N	-	Transfer to Bad Debt Date	
31	10	IS	O	N	-	Bad Debt Agency Code	
32	12	NM	O	N	-	Bad Debt Transfer Amount	
33	12	NM	O	N	-	Bad Debt Recovery Amount	
34	1	IS	O	N	-	Delete Account Indicator	
35	8	DT	O	N	-	Delete Account Date	
36	3	IS	O	N	-	Discharge Disposition	
37	25	CM	O	N	-	Discharged to Location	
38	250	CE	O	N	-	Diet Type	
39	2	IS	O	N	-	Servicing Facility	
40	1	ID	B	N	-	Bed Status	
41	2	IS	O	N	-	Account Status	
42	80	PL	O	N	-	Pending Location	
43	80	PL	O	N	-	Prior Temporary Location	
44	26	TS	O	N	-	Admit Date/Time	
45	26	TS	O	N	Y	Discharge Date/Time	
46	12	NM	O	N	-	Current Patient Balance	
47	12	NM	O	N	-	Total Charges	
48	12	NM	O	N	-	Total Adjustments	

49	12	NM	O	N	-	Total Payments	
50	250	CX	O	N	-	Alternate Visit ID	
51	1	IS	O	N	-	Visit Indicator	
52	250	XCN	B	N	Y	Other Healthcare Provider	

Table 36. Message about patient information updating: PV1 segment

The field definition of an indispensable setup in PV1 segment and an arbitrary setup is shown below.

PV1-2. Patient Class

Value	Description
<Patient class>	Reference of HL7Table0004 (Usually this field is not used)

PV1-3. Assigned Patient Location

Value	Description
<point of care (IS)>^<room (IS)>^<bed (IS)>^<facility (HD)>^<location status (IS)>^<person location type (IS)>^<building (IS)>^<floor (IS)>^<location description (ST)>	The monitor name is set in <bed>. Internet Protocol address with the index number is set in <facility>. ex)^^BSM001^192.10.1.1:1 * SVM-7100 series / SVM-7500 series / SVM-7600 series refers to only bed ID set in <bed>.

7.5.1.5. Message about Patient Information Updating: OBX Segment

Here, the receipt of height, weight, and a blood type is assumed.

SEQ	LEN	DT	OPT	BSM/ SVM	RP/#	Element	Remarks
1	4	SI	O	O	-	Set ID - OBX	
2	2	ID	C	R	-	Value Type	
3	250	CE	R	R	-	Observation Identifier	
4	20	ST	C	N	-	Observation Sub-ID	
5	65536	*	C	R	Y	Observation Value	
6	250	CE	O	O	-	Units	
7	60	ST	O	N	-	References Range	
8	5	IS	O	N	Y/5	Abnormal Flags	
9	5	NM	O	N	-	Probability	
10	2	ID	O	N	Y	Nature of Abnormal Test	
11	1	ID	R	R	-	Observation Result Status	
12	26	TS	O	N	-	Date Last Observation Normal Value	
13	20	ST	O	N	-	User Defined Access Checks	
14	26	TS	O	N	-	Observation date/time	
15	250	CE	O	N	-	Producer's ID	
16	250	XCN	O	N	-	Responsible Observer	
17	250	CE	O	N	-	Observation Method	
18	22	EI	O	N	Y	Equipment Instance Identifier	
19	26	TS	O	N	-	Date/Time of the Analysis	

Table 37. Message about patient information updating: OBX segment

The field definition of an indispensable setup in OBX segment and an arbitrary setup is shown below.

OBX-1. SET ID - OBX

Value	Description
	This field contains the sequence number.

OBX-2. Value Type

Value	Description
<Value type>	Reference of HL7Table0125
NM	Numeric
ST	String Data

OBX-3. Observation Identifier

Value	Description
<identifier (ST)>^<text (ST)>^<name of coding system (IS)>^<alternate identifier (ST)>^<alternate text (ST)>^<name of alternate coding system (IS)>	Height, weight, blood type The name should be given according to the NK definition. Height: 2522^Height Weight: 2523^Weight Blood type: 520^Blood

OBX-5. Observation Value

Value	Description
	The model specified by OBX-2 is followed. The height and weight are expressed by numeric values. The blood type is indicated by the following: A+, A-, B+, B-, O+, O-, AB+, and AB-.

OBX-6. Units

Value	Description
	The model specified by OBX-2 or OBX-5 is followed. The height and weight are expressed by cm and kg.

OBX-11. Observation Result Status

Value	Description
	Order detail description only (no result) Reference of HL7Table0085

7.5.2. Response to Patient Information Updating - Message about Response to Patient Information Updating: ACK^A08

No.	Segment	Segment Name	BSM / SVM	Remarks
1	MSH	Message Header Segment	R	MSH-9: ACK^A08
2	MSA	Message Acknowledgment Segment	R	
3	[ERR]	Error segment	N	

Table 38. Message about response to patient information updating (ACK)

- Brackets [...] indicate that the enclosed group of segments is optional.

7.5.2.1. Response to Patient Information Updating MSH Segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element	Remarks
1	1	ST	R	R	-	Field Separator	|
2	4	ST	R	R	-	Encoding Characters	^~\&
3	180	HD	O	O	-	Sending Application	
4	180	HD	O	O	-	Sending Facility	
5	180	HD	O	O	-	Receiving Application	
6	180	HD	O	O	-	Receiving Facility	
7	26	TS	O	O	-	Date/Time of Message	
8	40	ST	O	N	-	Security	
9	13	CM	R	R	-	Message Type	ACK^A08^ACK
10	20	ST	R	R	-	Message Control ID	
11	3	PT	R	R	-	Processing ID	P
12	60	VID	R	R	-	Version ID	2.4
13	15	NM	O	N	-	This field contains the sequence number.	
14	180	ST	O	N	-	Continuation Pointer	
15	2	ID	O	R	-	Accept Acknowledgement Type	
16	2	ID	O	R	-	Application Acknowledgement Type	
17	3	ID	O	O	-	Country Code	
18	16	ID	O	O	Y	Character Set	
19	250	CE	O	N	-	Principal Language of Message	
20	20	ID	O	O	-	Alternate Character Set Handling Scheme	
21	10	ID	O	N	Y	Conformance Statement ID	

Table 39. Message about response to patient information updating: MSH segment

The field definition of an indispensable setup in MSH segment and an arbitrary setup is shown below.

MSH-1. Field Separator

Value	Description
| (fixed)	Separator between the fields

MSH-2. Encoding characters

Value	Description
^~\& (fixed)	Component separator, repetitive separator, an escape character, subcomponent separator

MSH-3. Sending Application

Value	Description
<Sending Application>	(example) HL7Gateway *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-4. Sending Facility

Value	Description
<Institution>^<Section>	(example) NihonKohden *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-5. Receiving Application

Value	Description
<Receiving Application>	(example) HL7Client *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-6. Receiving Facility

Value	Description
<Institution>^<Section>	(example) Receiving Facility *In the case of the BSM / SVM, set in the SYSTEM CONFIGURATION screen.

MSH-7. Date/Time of Message

Value	Description
YYYYMMDDHHMMSS	Year/month/day/hour/minute/second (example) 20010131171823

MSH-9. Message Type

Value	Description
ACK^A08^ACK (fixed)	<Message Type>^<Event Type> Message Type: Reference of HL7Table0076 Event Type: Reference of HL7Table0003

MSH-10. Message Control ID

Value	Description
YYYYMMDDNNNNNN	Year/Month/Day/Sequence Number (example) 20010131123456

MSH-11. Processing ID

Value	Description
P (fixed)	Production: Reference of HL7Table0103

MSH-12. Version ID

Value	Description
2.4 (fixed)	HL7 protocol version 2.4

MSH-15. Accept Acknowledgment

Value	Description
NE (fixed)	“necessary” The PCD TF requires that this field be valued as NE.

MSH-16. Application Acknowledgment

Value	Description
AL (fixed)	“always” The PCD TF requires that this field be valued as AL.

MSH-18. Character Set

Value	Description
ASCII	When the entire message is in ASCII code. * SVM-7100 series / SVM-7500 series / SVM-7600 series supports only ASCII.

MSH-20. Alternate Character Set Handling Scheme

Value	Description
ASCII	When the entire message is in ASCII code. * SVM-7100 series / SVM-7500 series / SVM-7600 series supports only ASCII.

7.5.2.2 Response to patient information updating: MSA segment

SEQ	LEN	DT	OPT	BSM / SVM	RP/#	Element name	Remarks
1	2	ID	R	R	-	Acknowledgment Code	
2	20	ST	R	R	-	Message Control ID	
3	80	ST	O	N	-	Text Message	
4	15	NM	O	N	-	Expected Sequence Number	
5	1	ID	B	N	-	Delayed Acknowledgment Type	
6	250	CE	O	N	-	Error Condition	

Table 40 Message about response to patient information updating: MSA segment

The field definition of an indispensable setup in MSA segment and an arbitrary setup is shown below.

MSA-1 Acknowledgment Code

Value	Description
	Reference of HL7 Table 0008
AA	Original mode: Application Accept Enhanced mode: Application acknowledgment: Accept
AE	Original mode: Application Error Enhanced mode: Application acknowledgment: Error

MSA-2 Message Control ID

Value	Description
	MSH-10 in QRY message Definition: This field contains the message control ID of the message sent by the sending system. It allows the sending system to associate this response with the message for which it is intended.

8. Appendix

8.1 HL7 Table 0357 - Message Error Condition Codes

Error Condition Code	Error Condition Text	Description/Comment
Success		
0	Message accepted	Success. Optional, as the AA conveys success. Used for systems that must always return a status code.
Errors		
100	Segment sequence error	The message segments were not in the proper order, or required segments are missing.
101	Required field missing	A required field is missing from a segment
102	Data type error	The field contained data of the wrong data type, e.g. an NM field contained "FOO".
103	Table value not found	A field of data type ID or IS was compared against the corresponding table, and no match was found.
Rejection		
200	Unsupported message type	The Message Type is not supported.
201	Unsupported event code	The Event Code is not supported.
202	Unsupported processing id	The Processing ID is not supported.
203	Unsupported version id	The Version ID is not supported.
204	Unknown key identifier	The ID of the patient, order, etc., was not found. Used for transactions *other than* additions, e.g. transfer of a non-existent patient.
205	Duplicate key identifier	The ID of the patient, order, etc., already exists. Used in response to addition transactions (Admit, New Order, etc.).
206	Application record locked	The transaction could not be performed at the application storage level, e.g. database locked.
207	Application internal error	A catchall for internal errors not explicitly covered by other codes.

Table 41 HL7 Table 0357 - Message error condition codes

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Contact information is accurate as of September 2019. Visit https://www.nihonkohden.com/ for the latest information.

The model and serial number of your device are identified on the rear or bottom of the unit.
Write the model and serial number in the spaces provided below. Whenever you call your representative concerning this device, mention these two pieces of information for quick and accurate service.

Model _____ Serial Number _____

Your Representative

Note for users in the territory of the EEA and Switzerland:
Any serious incident that has occurred in relation to the device should be reported to the European Representative designated by the manufacturer and the Competent Authority of the Member State of the EEA and Switzerland in which the user and/or patient is established.

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