



## HL7 ORU – HL7 Result Message (Observation Result)

The ORU message is a structured report where each observation is separated into an individual entity, and then separated into fields. See below for types of observations included in a resulting message. Since the placer application (EMR) already holds all patient visit info (PV1), AudBase does not need to include the Patient Visit segment in the resulting message. For that reason PV1 is optional in the ORU.

SEGMENT/ GROUP	NAME	OPTIONAL
MSH	Message header	Required
Results Group		
Patient Group – Optional group		
PID	Patient identification	Required
PID1	Patient demographics– additional info	Optional
NTE	Notes and comments	Optional
Patient Visit Group – part of Patient Group		
PV1	Patient visit	Optional
PV2	Patient visit – additional info	Optional
Order Group		
ORC	Common order	Required
OBR	Observation request	Required
NTE-1	Notes and comments	Optional CF
Observation Group — part of Order Group		
OBX	Observation	Required
NTE-2	Notes and comments	Optional
Order Group continued		
CTI	Clinical trial identification	Optional CF

Ⓡ Mandatory Segments /Groups included by AudBase in the result message. 
 Ⓢ Will not be employed by AudBase.  
 Optional — Optional fields that may be included if noted in the message design form at no additional charge.  
 Optional CF— Optional fields that may be requested to be included in message, which may require an additional Customization Fee.

### Types of observations reported in the ORU-R01 message include:

- Clinical Results
- Image/s of report/s embedded or a link to the image share. (Located in OBX segment)
- Audiogram / Tympanogram study results
- Link (UNC Path) to clinical trials, or for medical reporting purposes for specialized devices.
- The HL7 ORU-R01 message transmits observations and results from the producing system i.e. Audiometer / Tympanometer to the ordering system (EMR / EHR).
- If notes/comments recorded in AudBase are to be included in the ORU they will reside in NTE-2

# HL7 ORU – HL7 Result Message (Observation Result)

## MSH—Message Header

Element number	1	2	3	4	5	6	7	8	9	10	11	12							
	MSH		^~\&		AUDBASE		AUDBASE		EMR		20120426145626		ORU^R01		15270604		P		2.3

## PID — Patient Identification

Element number	1	2	3	4	5	6	7	8	9										
	PID		1		H1849022		S		IVAN^SIMONO		PENA		20110207		M		S		IVAN^A
Element number	10	11																	
	Am Indian		307 ORANGE AVE APT 76	^^	BROWN VISTA	^	CO	^	91911-										
Element number	12	13																	
	4170	^	USA	^^	SAN DIEGO		SAN DIEGO		(XXX)XXX-3620	^^^	XXX	^	7303620						
Element number	1415	16	17	18	19	20	21	22											
			Single		81637118		999-99-0000		S		IVAN^DULCE								

## PV1 — Patient Visit

Element number	1	2	3	4	5	6	7	8							
	PV1		OUTPATIENT		H	^	AUDM	^^	10		1733	^	AMOUSE	^	MICKEY
Element number	9	18	19	20	25	30	35	40	44	49					
			81637118								201404290817				

## ORC — Order Common

Element number	1	2	3	4	5	6	7	8	9							
	ORC		NW		36000000	^	EPC		81999999		^^	20140429	^	R		201404290856
Element number	10	11	12													
	MICKE	^	GREAT	^	MOOSE	^	CANDYMANIA		13085	^	SALSALO	^	PAMELA			
Element number	13	14														
	100101037	^^	100101	^^	AUDIOLOGY MAIN		(XXX)XXX-7701									
Element number	15	17	18	19	25	29										
	^^	^	XXX	^	XXX7701		BOB4504A	^	BOB4504A		O					

## OBR — Observation Reports

Element number	1	2	3	4	5	6											
	OBR		1		36000000	^	EPC		AUD00001	^	AUDIOGRAM	^	AUDSFT	^^	AUDIOGRAM		20140429
Element number	11	16															
		20140429083443		20140429083443		Y		1733	^	AMOUSE	^	MICKEY					
Element number	17	20	24														
	(XXX)999-4059	^^	XXX	^	9994059		20140429083443		Audiology		F						
Element number	27	30	40	43													
		^^	20140429	^	R												

## OBX — Observation

Element number	1	2	3	4	5																		
	OBX		1		RP		123	^	Report		E	^	E	^	xxxapp167	^	E	^	AudBase Database	^	E	^	Secondary
Element number	5	6	11	14																			
	Continued		Export	^	E	^	511917049	^	20120426144322	^	80		F		20120426144322								

## Message Header

The HL7 MSH (Message Header) segment is present in every HL7 message type and defines the message's source, purpose, destination and character sets. It is always the first segment in a single HL7 message. AudBase will make use of header information such as Event Type, Date and Time, location origin of message, sending application (HIS) and . Message Control ID.

### Message Header

Element number	1	2	3	4	5	6	7	8	9	10	11	12	14	17													
	MSH		^~\&		AUDBASE		AUD		EMR			20140429085630			ORU^R01		1527681		P		2.3						

SEQ	Format	Option	Element / Field Name
1	ST	R	Field Separator
2	ST	R	Encoding Characters
3	HD	R	Sending Application
4	HD	R	Sending Facility
5	HD	O	Receiving Application
6	HD	O	Receiving Facility
7	TS	R	Date/Time of Message
8	ST	O	Security
9	CM_MSG	R	Message Type
10	ST	R	Message Control Id
11	PT	R	Processing Id
12	ID	R	Version Id
13	NM	O	Sequence Number
14	ST	O	Continuation Pointer
15	ID	O	Accept Acknowledgement Type
16	ID	O	Application Acknowledgement Type
17	ID	O	Country Code
18	ID	O	Character Set
19	CE	O	Principal Language of Message

## PID — Patient Identification Segment

The PID segment is found in every ORM message and contains 30 different fields with values ranging from patient ID number, to address, to marital status. The PID segment provides important identification information about the patient and is used as the primary means of communicating the identifying and demographic information about a patient between systems. AudBase will make use of the pertinent demographics within the PID Segment

### PID — Patient Identification Segment

```

Element number  1 2          3          4          5          6          7          8 9 10
PID|1||10006579^^^1^MRN^1||DUCK^DONALD^D||19241010|M||1|111 DUCK

Element number  11          12 13          14          15          18
ST^^FOWL^CA^999990000^^M|1|8885551212|8885551212|1|2||40007716^^^AudBase^VN^1

Element number  19 21 25 30
|123121234||| |||||NO
    
```

SEQ	Format	Option	Element / Field Name
0		R	Segment ID = "PID"
1	SI	0	Set ID - Patient ID
2	CX	0	Patient ID (External ID)
3	CX	R	Patient ID (Internal ID)
4	CX	0	Alternate Patient ID - PID
5	PN	R	Patient Name
6	PN	0	Mother's Maiden Name
7	TS	R	Date/Time of Birth
8	IS	R	Sex
9	PN	0	Patient Alias
10	IS	R	Race
11	AD	0	Patient Address
12	IS	0	County Code
13	TN	0	Phone Number - Home
14	TN	0	Phone Number - Business
15	CE	0	Primary Language
16	IS	0	Marital Status
17	IS	0	Religion
18	CX	R	Patient Account Number
19	ST	0	SSN Number - Patient
20	ST	0	Driver's License Number - Patient
21	CX	0	Mother's Identifier
22	IS	0	Ethnic Group
23	ST	0	Birth Place
24	ID	0	Multiple Birth Indicator
25	NM	0	Birth Order
26	IS	0	Citizenship
27	CE	0	Veterans Military Status
28	CE	0	Nationality
29	TS	0	Patient Death Date and Time
30	ID	0	59 Patient Death Indicator

## PV1 — Patient Visit

The PV1 Patient Visit segment contains information about the encounter (a.k.a. Visit). This segment includes ,amongst other things, the type of encounter, its start/end date and time, the admitting and attending physicians. AudBase will use data from this message to populate fields within the provider table of the AudBase database.

PV1 — Patient Visit																																						
Element number	1	2	3	4	5	6	7																															
	PV1		I		Audiology	^	101	^	1	^	1	^	^	S		3			37	^	DISNEY	^	WALT	^	^	^	^	^	AudBase	^	^							
Element number	8	9	10	14					17				18	19																								
	^	^	CI				01						1						37	^	DISNEY	^	WALT	^	^	^	^	AudBase	^	^	^	CI		2		40007716	^	^
Element number	20	25	30	35	39	40	43	44	45	49																												
	^	AudBase	^	VN		4													1		G			20050110045253														

SEQ	Format	Option	Element / Field Name
0		R	Segment ID = "PV1"
1	SI	O	Set ID - PV1
2	IS	R	Patient Class
3	PL	R	Assigned Patient Location
4	IS	O	Admission Type
5	CX	O	Pre-admit Number
6	PL	O	Prior Patient Location
7	CN	R	Attending Doctor
8	CN	R	Referring Doctor
9	CN	O	Consulting Doctor
10	IS	O	Hospital Service
11	PL	O	Temporary Location
12	IS	O	Pre-admit test Indicator
13	IS	O	Readmission Indicator
14	IS	O	Admit Source
15	IS	O	Ambulatory Status
16	IS	O	VIP Indicator
17	CN	O	Admitting Doctor
18	IS	O	Patient Type
19	CX	O	Visit Number
20	FC	O	Financial Class
21	IS	O	Charge Price Indicator
22	IS	O	Courtesy Code
36	IS	O	Discharge Disposition
37	CM	O	Discharged to Location
38	IS	O	Diet Type
42	PL	O	Pending Location
43	PL	O	Prior Temporary Location
44	TS	O	Admit Date/Time
45	TS	O	Discharge Date/Time
46	NM	O	Current Patient Balance
47	NM	O	Total Charges
48	NM	O	Total Adjustments
49	NM	O	Total Payments
50	CX	O	Alternate Visit ID
51	IS	O	Visit Indicator
52	CN	O	Other Healthcare Provider

SEQ #s 23-35 are related to financial transactions and are not included in this list of elements as options. If financial information is required please reflect in order form

## ORC — Order Common

The Common Order segment (ORC) is used to transmit fields that are common to all orders (all types of services that are requested). The ORC segment is required in the Order (ORM) message. ORC is mandatory in Order Acknowledgment (ORR) messages if an order detail segment is present, but is not required otherwise..

ORC — Order Common									
Element number	1	2	3	4	5 6	7	8	9	
	ORC NW 36146391^EPC   81999999   ^^^20140429^R  201404290856								
Element number	10	11	12						
	MICKE^GREAT^MONEY^CANDYMANIA   13085^SALSALO^PAMELA								
Element number	13	14							
	100101037^^^100101^^^^^AUDIOLOGY MAIN (XXX)XXX-7701								
Element number	15 17	18	19	25	29				
	^^^^XXX^XXX7701     BOB4504A^BOB4504A       O								

SEQ	Format	Option	Element / Field Name
0		R	Segment ID = "ORC"
1	ST	R	Order control
2	CM	R	Placer order number
3	CM	O	Filler order number
4	CM	O	Placer group number
5	ST	O	Order status
6	ST	O	Response flag
7	CM	O/R	Timing / Quantity
8	CM	O	Parent
9	TS	R	Transaction date/time
10	CN	O	Entered by
11	CN	O	Verified by
12	CN	O	Ordering provider
13	CM	O	Location for enterer
14	TN	O	Call back phone number
15	TS	O	Order effective date/ time
16	CE	O	Order control reason
17	CE	O	Entering organization
18	CE	O	Entering device
29	CWE	R	Order Type (0=Outpatient, 1=In)

### ORR — Order (ORM) Acknowledgement

SEQ	Format	Option	Element / Field Name
0		R	Segment ID = "ORC"
1	ST	R	Order control
2	CM	R	Placer order number
3	CM	O	Filler order number
4	CM	O	Placer group number
5	ST	O	Order status
6	ST	O	Response flag
7	CM	O/R	Timing / Quantity
8	CM	O	Parent

## OBR — Observation Reports

The HL7 OBR segment transmits information about an exam, diagnostic study/observation, or assessment that is specific to an order or result. It is used most frequently in ORM (Order) and ORU (Observation Result) messages, and has an important role in carrying the placer and filler order numbers.

Element number	1	2	3	4	5	6
	OBR	1 36775000^EPC	AUD00001^AUDIOGRAM^AUDSFT^^AUDIOGRAM			20140429
Element number				11	16	
	20140429083443	20140429083443	Y	1733^AMOUSE^MICKEY		
Element number	17	20	24			
	(XXX)999-4059^^^	^XXX^9994059		20140429083443	Audiology F	
Element number		27	30	40	43	
	^^^20140429^^R					

SEQ	Format	Option	Element / Field Name
1	SI	R	Set ID - OBR
2	EI	R	Placer Order Number
3	EI	R	Filler Order Number
4	CE	R	Universal Service Identifier
5	ID	O	Priority
6	TS	R	Requested Date/Time
7	TS	R	Observation Date/Time
8	TS	R	Observation End Date/Time
9	CQ	R	Collection Volume
10	XCN	O	Collector Identifier
11	ID	O	Specimen Action Code
12	CE	O	Danger Code
13	ST	O	Relevant Clinical Info.
14	TS	O	Specimen Received Date/Time
15	CM	O	Specimen Source
16	XCN	O	Ordering Provider
17	XTN	O	Order Callback Phone Number
18	ST	O	Placer Field 1
19	ST	O	Placer Field 2
20	ST	O	Filler Field 1
21	ST	O	Filler Field 2
22	TS	O	Results Report/Status Change - Date/Time
23	CM	O	Charge To Practice
24	ID	O	Diagnostic Serv Sect ID
25	ID	O	Result Status (F for Final or P for Preliminary)
26	CM	O	Parent Result
27	TQ	O	Quantity/Timing
28	XCN	O	Result Copies To
29	CM	O	Parent Number
31	CE	O	Reason For Study
32	CM	O	Principal Result Interpreter
33	CM	O	Assistant Result Interpreter
34	CM	O	Technician
35	CM	O	Transcriptionist
36	TS	O	Scheduled Date/Time
38	CE	O	Number Of Sample Containers
39	CE	O	Transport Logistics Of Collected Samples

## OBX — Observation Result

The OBX segment is primarily used to carry key clinical observation/results reporting information within report messages, which must be transmitted back to the requesting system, to another physician system or to an archival medical record system. AudBase will result the PDF of audiogram report within OBX segment 5 and AudBase will identify the Audiogram result as encapsulated data (ED) if the PDF is embedded. If the Audiogram report is stored on a share then RP will be used as the identifier to indicate that a link or Reference Pointer is used if the host system can not render an embedded image.

OBX — Observation Result					
Element number	1	2	3	4	5
	OBX		1		ED
			AUDDOC	^^	AUDSFTLRR
					AUDBASE^application^pdf^Base64
<b>Element number</b>	--- (5 continued) ---				
	^JVBERi0xLjIKekdf1fnfSqQYt7AjczYfpmRSIEyEcx8KMSAwIG9iago8PAovVHlwZS				
<b>Element number</b>	--- (5 continued) ---				
	AvQ2F0YWxvZwovUGFnZXMgMiAwIFIKL1BhZ2VMYXlvdXQgL09uZUNvbHVtbgovVmlld				
<b>Element number</b>	--- (5 continued) ---				
	2VyUHJlZmVyZW5jZXMgPDwKL0hpZGVUb29s..... (Base 64 code continued).				

SEQ	Format	Option	Element / Field Name
0		R	Segment ID = "OBX"
1	SI	O	Set ID - OBX
2	ID	R	Value Type (ED, RP, TX or FT)
3	CE	R	Observation Identifier
4	ST	O	Observation Sub-ID
5	NM	R	Observation Value (Embedded AudBase Report Image or Link)
6	CE	R	Units
7	ST	O	References Range
8	ID	O	Abnormal Flags
9	NM	O	Probability
10	ID	O	Nature of Abnormal Test
11	ID	O	Result Status (P=Prelim., F=Final)
12	TS	O	Date of Last Normal Values
13	ST	O	User Defined Access Checks
14	TS	O	Date/Time of the Observation
15	CE	O	Producer's ID
16	CN	O	Responsible Observer
17	CE	O	Observation Method

### Observation Result (SEQ #2)

Value Type	Description
ED	Encapsulated Data
FT	Formatted Text
TX	Text Data
RP	Reference Pointer or UNC Name