

SecureFlow Pro™ HL7 Specifications

ADT, MDM and ACK Message Types

Document Version	1.2
Updated	11/3/2005



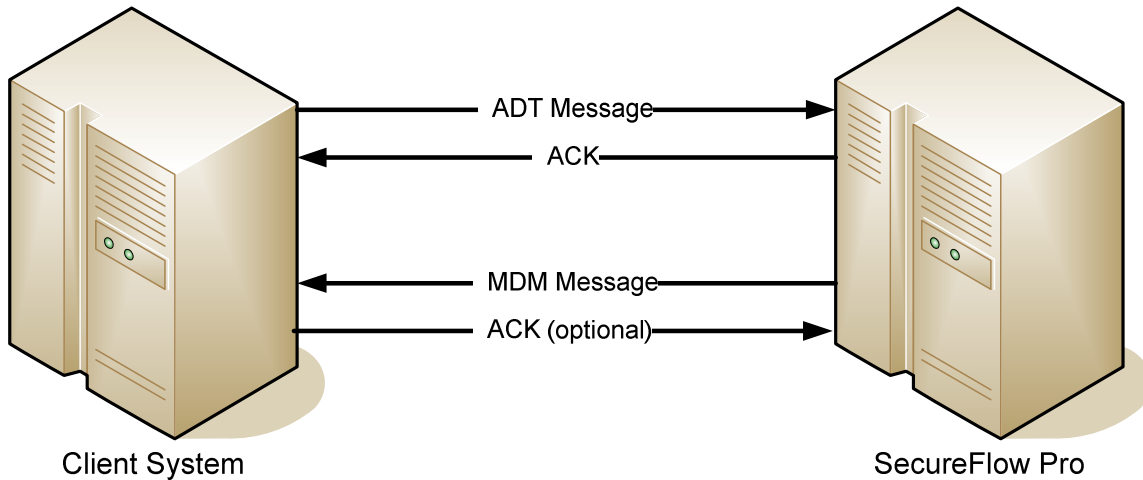
© Copyright 2004
Remote Operations, Inc.
All Rights Reserved

RESPONSE PARADIGMS	3
ADMISSION DISCHARGE AND TRANSFER MESSAGE (ADT)	4
Messages Supported by SecureFlow Pro™	4
Message Header (MSH)	4
Event Type (EVN) Segment	5
Next of Kin (NK1) Segment	5
Patient Identifier (PID) Segment	6
Patient Visit 1 (PV1) Segment	7
Example ADT Message	9
ACKNOWLEDGEMENTS (ACK) FOR ADT	10
Message Header (MSH)	10
Message Acknowledgement (MSA) Segment	11
Example ACK Message	11
MEDICAL DOCUMENT MANAGEMENT (MDM) MESSAGES	12
Message Header (MSH)	12
Event Type (EVN) Segment	13
Patient Identifier (PID) Segment	13
Patient Visit 1 (PV1) Segment	14
Transcription Document Header (TXA) Segment	15
Observation Result (OBX) Segment	16
Example MDM Message	17
ACKNOWLEDGEMENTS (ACK) FOR MDM	19
Message Header (MSH)	19
Message Acknowledgement (MSA) Segment	20
Example ACK Message	20
REVISION HISTORY	21

Response Paradigms

The following response paradigms relate to the communication between external HL7 systems and the Remote Operations SecureFlow Pro™ system.

ADT messages are sent by the client system to the SecureFlow Pro system while MDM messages containing the finished transcriptions are sent back to the client system.



Admission Discharge and Transfer Message (ADT)

Messages Supported by SecureFlow Pro™

The following messages are supported by the SecureFlow Pro system. They are not individually addressed in the following specification.

- ADT A01 - admit/visit notification
- ADT A03 - discharge/end visit
- ADT A04 - register a patient
- ADT A05 - pre-admit a patient
- ADT A11 - cancel admit / visit notification
- ADT A13 - cancel discharge / end visit
- ADT A23 - delete a patient record
- ADT A38 - cancel pre-admit

Remote Operations requires messages that are triggered by the necessary events listed above. The HL7 Admission Discharge and Transfer Message (ADT) should contain the following information.

Note: Segments must be terminated by 0x0D. This cannot change as specified by the HL7 specification.

Use Identifier	Description
O	Optional
R	Required
U	Unused

Message Header (MSH)

Pos	Element	Length	Use	Example
1	Field Separator	1	R	Pipe symbol -
2	Encoding Characters	4	R	^~\&
	1. Component	1	R	^
	2. Repeat	1	R	~
	3. Escape	1	R	\
	4. Subcomponent	1	R	&
3	Sending Application Name	180	R	EMRDirect
4	Sending Facility Name	180	R	NewCo
5	Receiving Application	180	U	
6	Receiving Facility	180	U	
7	Date and Time of Message	26	R	YYYYMMDDhhmmss 20041231021425
8	Security	40	U	
9	Message Type	7	R	ADT01
	1. Message Type	3	R	ADT
	2. Trigger Event	3	R	01
10	Message Control Identifier	20	R	71200517353359
11	Processing ID	3	O	Defaults to Production

	1. Processing Identifier 2. Separator (^) 3. Processing Mode	1 1 1		P = Production T = Training D = Debugging A = Archive R = Restore from archive I = Initial load [empty] = Not present
12	HL7 Version	8	R	2.2, 2.3, etc. Must be 2.2 or later
13	Sequence Number	15	U	A non-null value in this field implies that the sequence number protocol is in use. This numeric field is incremented by one for each subsequent value.
14	Continuation Pointer	180	U	This field is used to define continuations in application-specific ways.
15	Accept Acknowledgement Type	2	U	AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion
16	Application Acknowledgement Type	2	U	AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion
17	Country Code	2	U	ISO 3166 provides a list of country codes
18	Character Set	6	U	Alternate character sets not used.
19	Principle Language of Message	60	U	ISO 639 provides a list of codes

Event Type (EVN) Segment

Pos	Element	Length	Use	Example
1	Event Type Code	3	U	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.
2	Recorded Date and Time	26	U	
3	Date and Time of Planned Event	26	U	
4	Event Reason Code	3	U	
5	Operator ID	60	U	
6	Event Occurred	26	U	

Next of Kin (NK1) Segment

Pos	Element	Length	Use	Example
1	Set ID (NK1)	4	U	
2	Name	48	U	
3	Relationship	60	U	
4	Address	106	U	
5	Phone Number	40	U	
6	Business Phone Number	40	U	
7	Contact Role	60	U	
8	Start Date	8	U	

9	End Date	8	U	
10	Next of Kin/Associated Party's Job Title	60	U	
11	Next of Kin/Associated Party's Job Code/Class	20	U	
12	Next of Kin/Associated Party's Employee Number	20	U	
13	Organization Name	60	U	
14	Marital Status	2	U	
15	Sex	1	U	
16	Date and Time of Birth	26	U	
17	Living Dependency	2	U	
18	Ambulatory Status	2	U	
19	Citizenship	4	U	
20	Primary Language	60	U	
21	Living Arrangement	2	U	
22	Publicity Indicator	1	U	
23	Protection Indicator	1	U	
24	Student Indicator	2	U	
25	Religion	3	U	
26	Mother's Maiden Name	48	U	
27	Nationality	80	U	
28	Ethnic Group	3	U	
29	Contact Reason	80	U	
30	Contact Person's Name	48	U	
31	Contact Person's Telephone Number	40	U	
32	Contact Person's Address	106	U	
33	Next of Kin/Associated Party's Identifiers	32	U	
34	Job Status	2	U	
35	Race	1	U	
36	Handicap	2	U	
37	Contact Person Social Security Number	16	U	

Patient Identifier (PID) Segment

Pos	Element	Length	Use	Example
1	Set ID (Patient ID)	4	U	
2	Patient ID – External ID	20	R	123456
3	Patient ID – Internal ID	20	U	
4	Alternate Patient ID	20	U	
5	Patient Name 1. Last Name 2. First Name 3. Middle Initial 4. Suffix 5. Prefix	48	R	Smith^John^C^Rev^III
6	Mother's Maiden Name	48	U	
7	Date and Time of Birth	26	O	YYYYMMDDhhmmss 19730704063200
8	Sex	1	O	00111
9	Patient Alias	48	U	

	1. Last Name 2. First Name 3. Middle Initial 4. Suffix 5. Prefix			
10	Race	1	U	
11	Patient Address 1. Address Line 1 2. Address Line 2 3. City 4. State 5. Postal Code 6. Country	106	O	4708 Indian Paint^^Example^Texas^77777
12	County Code	12	U	
13	Phone Number – Home	40	U	NPANXXXXXX
14	Phone Number – Business	40	U	NPANXXXXXX
15	Primary Language	60	U	
16	Marital Status	1	U	
17	Religion	3	U	
18	Patient Account Number	20	R	ETH0809
19	Social Security Number	16	U	
20	Driver's License Number	25	U	
21	Mother's Identifier	21	U	
22	Ethnic Group	3	U	
23	Birth Place	60	U	
24	Multiple Birth Indicator	2	U	
25	Birth Order	2	U	
26	Citizenship	4	U	
27	Veteran's Military Status	60	U	
28	Nationality	80	U	
29	Patient Death and Time	26	U	
30	Patient Death Indicator	1	U	

Patient Visit 1 (PV1) Segment

Pos	Element	Length	Use	Example
1	Set ID PV1	4	U	
2	Patient Class	1	O	E = Emergency I = Inpatient O = Outpatient P = Preadmit R = Recurring Patient B = Obstetrics
3	Assigned Patient Location	80	U	
4	Admission Type	2	O	A = Accident E = Emergency L = Labor and Delivery R = Routine
5	Preadmit Number	20	O	
6	Prior Patient Location	80	U	
7	Attending Doctor 1. Last Name 2. First Name 3. Middle Initial	60	O	Smith^John^C

REMOTE OPERATIONS™

8	Referring Doctor 1. Last Name 2. First Name 3. Middle Initial	60	O	Smith^John^C
9	Consulting Doctor 1. Last Name 2. First Name 3. Middle Initial	60	O	Smith^John^C
10	Hospital Service	3	U	
11	Temporary Location	80	U	
12	Pre-admit Test Indicator	2	U	
13	Re-admission Indicator	2	U	
14	Admit Source	3	U	
15	Ambulatory Status	2	U	
16	VIP Indicator	2	U	
17	Admitting Doctor	60	U	
18	Patient Type	2	U	
19	Visit Number	20	U	
20	Financial Class	50	U	
21	Charge Price Indicator	2	U	
22	Courtesy Code	2	U	
23	Credit Rating	2	U	
24	Contract Code	2	U	
25	Contract Effective Date	8	U	
26	Contract Amount	12	U	
27	Contract Period	3	U	
28	Interest Code	2	U	
29	Transfer to Bad Debt Code	1	U	
30	Transfer to Bad Debt Date	8	U	
31	Bad Debt Agency Code	10	U	
32	Bad Debt Transfer Amount	12	U	
33	Bad Debt Recovery Amount	12	U	
34	Delete Account Indicator	1	U	
35	Delete Account Date	8	U	
36	Discharge Disposition	3	U	
37	Discharged to Location	25	U	
38	Diet Type	2	U	
39	Servicing Facility	2	U	
40	Bed Status	1	U	
41	Account Status	2	U	
42	Pending Location	80	U	
43	Prior Temporary Location	80	U	
44	Admit Date and Time	26	U	
45	Discharge Date and Time	26	U	
46	Current Patient Balance	12	U	
47	Total Charges	12	U	
48	Total Adjustments	12	U	
49	Total Payments	12	U	
50	Alternative Visit ID	20	U	
51	Visit Indicator	1	U	

52	Other Healthcare Provider	60	U
----	---------------------------	----	---

Example ADT Message

The following is an example ADT message.

```
MSH|^~&|REG|XYZ||XYZ|20050912110538||ADT^A04|4676115|P|2.3|
EVN|A04|20050912110538||VKP PID|||353966||SMITH^JOHN^^^|19820707|F||C|108 MAIN
STREET ^^ANYTOWN^TX^77777^^|HARV|(512)555-0170|||00362103|123-45-6789|||
NK1|1|SMITH^JOHN^|M|108 MAIN STREET^^ANYTOWN^TX^77777^^|(512)555-0170||NK|
NK1|2|SMITH^STEPHEN^|F|108 MAIN STREET^^ANYTOWN^TX^77777^^|(512)555-0170||NK|
NK1|1|||EM||UNEMPLOYED||UNEMPLOYED^^UNEMP|||^^^|3|
PV1||O|SEROT|3|||1284^JOHNSON^MIKE^S.^MD~||SEROT|||1||1284^JOHNSON^MIKE^S.^
MD|SERIES|787672|B|||N|||A||20050912110230||| PV2||HAND BRACE NEEDS
REPAIRED|||20050912|||A||20050725|||O||| DG1|000|""^I9||A|||
GT1|1||SMITH^JOHN^|108 MAIN STREET^^ANYTOWN^TX^77777^^|(512)555-
0170||19820707|F||P|123-45-
6789||1|UNEMPLOYED|||UNEMP|S|||UNEMPLOYED||UNEMPLOYED^^UNEMP|
```

Acknowledgements (ACK) for ADT

The Remote Operations system sends acknowledgement (ACK) messages to all ADT messages. The structure of the ACK is as follows:

Message Header (MSH)

Pos	Element	Length	Use	Example
1	Field Separator	1	R	Pipe symbol -
2	Encoding Characters	4	R	^~\&
	1. Component	1	R	^
	2. Repeat	1	R	~
	3. Escape	1	R	\
	4. Subcomponent	1	R	&
3	Sending Application Name	180	R	<i>SFConnect</i>
4	Sending Facility Name	180	R	<i>Remote Operations, Inc.</i>
5	Receiving Application	180	U	
6	Receiving Facility	180	U	
7	Date and Time of Message	26	R	YYYYMMDDhhmmss 20030226000000
8	Security	40	U	
9	Message Type	7	R	ACK
10	Message Control Identifier	20	R	6162003124232500
11	Processing ID	3	O	Defaults to Production P = Production T = Training D = Debugging A = Archive R = Restore from archive I = Initial load [empty] = Not present
12	HL7 Version	8	R	2.2, 2.3, etc. Must be 2.2 or later
13	Sequence Number	15	U	A non-null value in this field implies that the sequence number protocol is in use. This numeric field is incremented by one for each subsequent value.
14	Continuation Pointer	180	U	This field is used to define continuations in application-specific ways.
15	Accept Acknowledgement Type	2	U	AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion
16	Application Acknowledgement Type	2	U	AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion
17	Country Code	2	U	ISO 3166 provides a list of country codes
18	Character Set	6	U	Alternate character sets not used.
19	Principle Language of Message	60	U	ISO 639 provides a list of codes

Message Acknowledgement (MSA) Segment

Pos	Element	Length	Use	Example
1	Acknowledgement Code	2	R	AA = Success AE = Error
2	Message Control ID	20	R	20030226000000
3	Text Message	80	O	Success, or Failure
4	Expected Sequence Number	15	U	
5	Delayed Acknowledgement Type	1	U	
6	Error Condition	100	O	

Example ACK Message

The following is an example success ACK message.

```
MSH|^~\&|SFConnect|SecureFlow Pro||  
20030226000000||ACK|6162003124232500|P|2.3|||||||MSA|AA|20030226000000|Success|||
```

The following is an example failure ACK message.

```
MSH|^~\&|SFConnect|SecureFlow Pro ||  
20030226000000||ACK|6162003124232500|P|2.3|||||||MSA|AE|20030226000000|Failure|||
```

Medical Document Management (MDM) Messages

Remote Operations returns finished transcriptions to the client using Medical Document Management (MDM) messages that are triggered by the *Transcription Completion* event in the SecureFlow Pro system. The HL7 message will contain the following information.

Note: Segments must be terminated by 0x0D. This cannot change as specified by the HL7 specification.

Use Identifier	Description
O	Optional
R	Required
U	Unused

Message Header (MSH)

Pos	Element	Length	Use	Example
1	Field Separator	1	R	Pipe symbol -
2	Encoding Characters	4	R	^~\&
	5. Component	1	R	^
	6. Repeat	1	R	~
	7. Escape	1	R	\
	8. Subcomponent	1	R	&
3	Sending Application Name	180	R	<i>EMRDirect</i>
4	Sending Facility Name	180	R	<i>NewCo</i>
5	Receiving Application	180	U	
6	Receiving Facility	180	U	
7	Date and Time of Message	26	R	YYYYMMDDhhmmss <i>20041231021425</i>
8	Security	40	U	
9	Message Type	7	R	<i>ORM01</i>
	3. Message Type	3	R	ORM
	4. Trigger Event	3	R	01
10	Message Control Identifier	20	R	<i>71200517353359</i>
11	Processing ID	3	O	Defaults to Production P = Production T = Training D = Debugging A = Archive R = Restore from archive I = Initial load [empty] = Not present
	7. Processing Identifier	1		
	8. Separator (^)	1		
	9. Processing Mode	1		
12	HL7 Version	8	R	2.2, 2.3, etc. Must be 2.2 or later
13	Sequence Number	15	U	A non-null value in this field implies that the sequence number protocol is in use. This numeric field is incremented by one for each subsequent value.
14	Continuation Pointer	180	U	This field is used to define continuations in application-specific ways.

15	Accept Acknowledgement Type	2	U	AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion
16	Application Acknowledgement Type	2	U	AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion
17	Country Code	2	U	ISO 3166 provides a list of country codes
18	Character Set	6	U	Alternate character sets not used.
19	Principle Language of Message	60	U	ISO 639 provides a list of codes

Event Type (EVN) Segment

Pos	Element	Length	Use	Example
1	Event Type Code	3	R	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.
2	Recorded Date and Time	26	R	
3	Date and Time of Planned Event	26	U	
4	Event Reason Code	3	U	
5	Operator ID	60	U	
6	Event Occurred	26	U	

Patient Identifier (PID) Segment

Pos	Element	Length	Use	Example
1	Set ID (Patient ID)	4	U	
2	Patient ID – External ID	20	R	123456
3	Patient ID – Internal ID	20	U	
4	Alternate Patient ID	20	U	
5	Patient Name 6. Last Name 7. First Name 8. Middle Initial 9. Suffix 10. Prefix	48	R	Smith^John^C^Rev^III
6	Mother's Maiden Name	48	U	
7	Date and Time of Birth	26	O	YYYYMMDDhhmmss 19730704063200
8	Sex	1	O	00111
9	Patient Alias 6. Last Name 7. First Name 8. Middle Initial 9. Suffix 10. Prefix	48	U	
10	Race	1	U	
11	Patient Address 7. Address Line 1 8. Address Line 2 9. City	106	O	4708 Indian Paint^^Example^Texas^77777

	10. State 11. Postal Code 12. Country			
12	County Code	12	U	
13	Phone Number – Home	40	U	NPANXXXXXX
14	Phone Number – Business	40	U	NPANXXXXXX
15	Primary Language	60	U	
16	Marital Status	1	U	
17	Religion	3	U	
18	Patient Account Number	20	R	ETH0809
19	Social Security Number	16	U	
20	Driver's License Number	25	U	
21	Mother's Identifier	21	U	
22	Ethnic Group	3	U	
23	Birth Place	60	U	
24	Multiple Birth Indicator	2	U	
25	Birth Order	2	U	
26	Citizenship	4	U	
27	Veteran's Military Status	60	U	
28	Nationality	80	U	
29	Patient Death and Time	26	U	
30	Patient Death Indicator	1	U	

Patient Visit 1 (PV1) Segment

Pos	Element	Length	Use	Example
1	Set ID PV1	4	U	
2	Patient Class	1	O	E = Emergency I = Inpatient O = Outpatient P = Preadmit R = Recurring Patient B = Obstetrics
3	Assigned Patient Location	80	U	
4	Admission Type	2	O	A = Accident E = Emergency L = Labor and Delivery R = Routine
5	Preadmit Number	20	O	
6	Prior Patient Location	80	U	
7	Attending Doctor 4. Last Name 5. First Name 6. Middle Initial	60	O	Smith^John^C
8	Referring Doctor 4. Last Name 5. First Name 6. Middle Initial	60	O	Smith^John^C
9	Consulting Doctor 4. Last Name 5. First Name 6. Middle Initial	60	O	Smith^John^C

10	Hospital Service	3	U	
11	Temporary Location	80	U	
12	Pre-admit Test Indicator	2	U	
13	Re-admission Indicator	2	U	
14	Admit Source	3	U	
15	Ambulatory Status	2	U	
16	VIP Indicator	2	U	
17	Admitting Doctor	60	U	
18	Patient Type	2	U	
19	Visit Number	20	U	
20	Financial Class	50	U	
21	Charge Price Indicator	2	U	
22	Courtesy Code	2	U	
23	Credit Rating	2	U	
24	Contract Code	2	U	
25	Contract Effective Date	8	U	
26	Contract Amount	12	U	
27	Contract Period	3	U	
28	Interest Code	2	U	
29	Transfer to Bad Debt Code	1	U	
30	Transfer to Bad Debt Date	8	U	
31	Bad Debt Agency Code	10	U	
32	Bad Debt Transfer Amount	12	U	
33	Bad Debt Recovery Amount	12	U	
34	Delete Account Indicator	1	U	
35	Delete Account Date	8	U	
36	Discharge Disposition	3	U	
37	Discharged to Location	25	U	
38	Diet Type	2	U	
39	Servicing Facility	2	U	
40	Bed Status	1	U	
41	Account Status	2	U	
42	Pending Location	80	U	
43	Prior Temporary Location	80	U	
44	Admit Date and Time	26	U	
45	Discharge Date and Time	26	U	
46	Current Patient Balance	12	U	
47	Total Charges	12	U	
48	Total Adjustments	12	U	
49	Total Payments	12	U	
50	Alternative Visit ID	20	U	
51	Visit Indicator	1	U	
52	Other Healthcare Provider	60	U	

Transcription Document Header (TXA) Segment

Pos	Element	Length	Use	Example
1	Set ID – TXA	4	R	
2	Document Type	30	R	Work type selected by the doctor
3	Document Content Presentation	2	R	<i>FT = Formatted Text</i>
4	Activity Time and Date	26	R	YYYYMMDDhhmmss

5	Primary Activity Provider Code/Name	60	R	
6	Origination Date and Time	26	R	YYYYMMDDhhmmss
7	Transcription Date and Time	26	R	YYYYMMDDhhmmss
8	Edit Date and Time	26	R	YYYYMMDDhhmmss
9	Originator Code/Name	60	R	
10	Assigned Document Authenticator	60	O	
11	Transcriptionist Code/Name	48	R	Selected by client
12	Unique Document Number	30	R	Globally Unique Identifier
13	Parent Document Number	30	U	
14	Placer Order Number	22	U	
15	Filler Order Number	22	U	
16	Unique Document File Name	30	U	
17	Document Completion Status	2	R	PA = Pre-authenticated (preliminary) AU = Authenticated (final) LA = Legally Authenticated (final that has been digitally signed)
18	Document Confidentiality Status	2	R	U = Usual Control
19	Document Availability Status	2	R	AV = Available for patient care
20	Document Storage Status	2	R	AC = Active
21	Document Change Reason	30	U	
22	Authentication Person Time Stamp	60	U	
23	Distributed Copies Code and Name	512	O	This does not adhere to the 60 character limit set by the HL7 Organization due to possibility of having more doctors than can fit in the 60 character limit.

Observation Result (OBX) Segment

Pos	Element	Length	Use	Example
1	Set ID (OBX)	10	R	1, 2, 3, ...
2	Value Type	2	R	AD = Address DT Date ED Encapsulated Data FT Formatted Text (Display) ST String Data. TM Time TN Telephone Number TS Time Stamp (Date & Time) TX Text Data (Display)
3	Observation Identifier	590	R	EX00569
4	Observation Sub-ID	20	U	
5	Observation Value	65536	O	Report section text.
6	Units	60	U	
7	References Range	10	U	
8	Abnormal Flags	5	U	
9	Probability	5	U	
10	Nature of Abnormal Test	2	U	
11	Observation Result Status	2	U	
12	Date of Last Observation	26	U	

	Normal Values			
13	User-Defined Access Checks	20	U	
14	Date and Time of the Observation	26	R	
15	Producer's ID	60	U	
16	Responsible Observer	80	U	
17	Observation Method	60	U	

Example MDM Message

The following is an example MDM message.

```
MSH|^~&|SFCConnect|SecureFlow Pro|XYZ||20050918000000||MDM^T04|{6AF4DC6C-5BF1-4563-8EBD-F54B880B3613}|P|2.3||||| EVN|T04|20050918000000
PID|1||355281||SMITH^JOHN|||||||00360397|||||||
PV1|1|O|NMC|||||||20050918|||||
TXA|1|06|FT||1095|20050916|20050918||1095^JOHNSON^JOHN|1095|MJS|9528|||||LA|U|AV|AC
||1095^JOHNSON^JOHN^^DO~ OBX|1|TX|00360397|1|PATIENT NAME:|||||||200509180000||
OBX|2|TX|00360397|1|SMITH, JOHN E.|||||||200509180000||
OBX|3|TX|00360397|1|||||||200509180000|| OBX|4|TX|00360397|1|ACCT.
NUMBER:|||||||200509180000|| OBX|5|TX|00360397|1|00360397|||||||200509180000||
OBX|6|TX|00360397|1|||||||200509180000||
OBX|7|TX|00360397|1|DATE:|||||||200509180000||
OBX|8|TX|00360397|1|9/16/05|||||||200509180000||
OBX|9|TX|00360397|1|||||||200509180000||
OBX|10|TX|00360397|1|DOCTOR:|||||||200509180000|| OBX|11|TX|00360397|1|Charles
Graber|||||||200509180000|| OBX|12|TX|00360397|1|||||||200509180000||
OBX|13|TX|00360397|1|TYPE OF PROCEDURE:|||||||200509180000||
OBX|14|TX|00360397|1|CHEST, PORTABLE|||||||200509180000||
OBX|15|TX|00360397|1|||||||200509180000|| OBX|16|TX|00360397|1|||||||200509180000||
OBX|17|TX|00360397|1|SYMPTOMS OR REASON FOR PROCEDURE:|||||||200509180000||
OBX|18|TX|00360397|1|CHEST TUBES|||||||200509180000||
OBX|19|TX|00360397|1|||||||200509180000|| OBX|20|TX|00360397|1|One film was presented
for interpretation and reveals a chest tube|||||||200509180000|| OBX|21|TX|00360397|1|with the
tip at the right hilus. There is noted to be a lack of|||||||200509180000||
OBX|22|TX|00360397|1|expansion toward the right apex with approximately 20-25% lack
of|||||||200509180000|| OBX|23|TX|00360397|1|expansion of the right lung. Evidence of recent
surgery is noted|||||||200509180000|| OBX|24|TX|00360397|1|with multiple skin staples seen
overlying the mid to lower thorax.|||||||200509180000|| OBX|25|TX|00360397|1|The left lung field
appears to be generally clear. There is some|||||||200509180000||
OBX|26|TX|00360397|1|haziness toward the left base but not much different when compared
to|||||||200509180000|| OBX|27|TX|00360397|1|the prior examination.|||||||200509180000||
OBX|28|TX|00360397|1|||||||200509180000||
OBX|29|TX|00360397|1|IMPRESSION/ASSESSMENT:|||||||200509180000||
OBX|30|TX|00360397|1|1. Lack of expansion of the right apex as above described
with|||||||200509180000|| OBX|31|TX|00360397|1|approximately 20-25% pneumothorax
persisting.|||||||200509180000|| OBX|32|TX|00360397|1|2. Right chest tube is now seen with the
tip at the level of the|||||||200509180000|| OBX|33|TX|00360397|1|right
hilus.|||||||200509180000|| OBX|34|TX|00360397|1|||||||200509180000||
OBX|35|TX|00360397|1|DIGITAL SIGNATURE:|||||||200509180000||
OBX|36|TX|00360397|1|DIGITAL SIGNATURE HERE IF REAL|||||||200509180000||
OBX|37|TX|00360397|1|||||||200509180000|| OBX|38|TX|00360397|1|||||||200509180000||
OBX|39|TX|00360397|1|EB1151C7D915C1452F1E8FF274AD55|||||||200509180000||
OBX|40|TX|00360397|1|File: JJOHNSON-Radiology-123456.wav|||||||200509180000||
```

REMOTE OPERATIONS™

OBX|41|TX|00360397|1|By: JOHN JOHNSON|||||||200509180000|||
OBX|42|TX|00360397|1|Location: 299.188.444.626|||||||200509180000|||
OBX|43|TX|00360397|1|Date: 9/18/2005 10:18:29 AM|||||||200509180000|||
OBX|44|TX|00360397|1|||||||200509180000|||

Acknowledgements (ACK) for MDM

The Remote Operations system sends acknowledgement (ACK) messages to all MDM messages. The structure of the ACK is as follows:

Message Header (MSH)

Pos	Element	Length	Use	Example
1	Field Separator	1	R	Pipe symbol -
2	Encoding Characters	4	R	^~\&
	5. Component	1	R	^
	6. Repeat	1	R	~
	7. Escape	1	R	\
	8. Subcomponent	1	R	&
3	Sending Application Name	180	R	Client Vendor Application Name
4	Sending Facility Name	180	R	Client Facility Name
5	Receiving Application	180	U	
6	Receiving Facility	180	U	
7	Date and Time of Message	26	R	YYYYMMDDhhmmss 20030226000000
8	Security	40	U	
9	Message Type	7	R	ACK
10	Message Control Identifier	20	R	6162003124232500
11	Processing ID	3	O	Defaults to Production P = Production T = Training D = Debugging A = Archive R = Restore from archive I = Initial load [empty] = Not present
12	HL7 Version	8	R	2.2, 2.3, etc. Must be 2.2 or later
13	Sequence Number	15	U	A non-null value in this field implies that the sequence number protocol is in use. This numeric field is incremented by one for each subsequent value.
14	Continuation Pointer	180	U	This field is used to define continuations in application-specific ways.
15	Accept Acknowledgement Type	2	U	AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion
16	Application Acknowledgement Type	2	U	AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion
17	Country Code	2	U	ISO 3166 provides a list of country codes
18	Character Set	6	U	Alternate character sets not used.
19	Principle Language of Message	60	U	ISO 639 provides a list of codes

Message Acknowledgement (MSA) Segment

Pos	Element	Length	Use	Example
1	Acknowledgement Code	2	R	AA = Success AE = Error
2	Message Control ID	20	R	20030226000000
3	Text Message	80	O	Success, or Failure
4	Expected Sequence Number	15	U	
5	Delayed Acknowledgement Type	1	U	
6	Error Condition	100	O	

Example ACK Message

The following is an example success ACK message for an ORU message.

MSH|^~\&|EMRDirect|Example Hospital|||
20030226000000||ACK|6162003124232500|P|2.3|||||||MSA|AA|20030226000000|Success|||

The following is an example failure ACK message for an ORU message.

MSH|^~\&|EMRDirect|Example Hospital|||
20030226000000||ACK|6162003124232500|P|2.3|||||||MSA|AE|20030226000000|Failure|||

Revision History

Date	Version	Author	Notes
10/22/2004	0.1	Richard Bagdonas	Draft Version
11/08/2004	1.0	Richard Bagdonas	Final Version
4/7/2005	1.1	Richard Bagdonas	Adjusted length of distributed copies
11/3/2005	1.2	Richard Bagdonas	Changed name of sending facility to SecureFlow Pro