

OHT-SEM [SDI M라인]

Message Specification
Version 1.5

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Document Control

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1 SECS- II / GEM MESSAGE STREAM FUNCTION LIST

Message	Direction	Description	Note
S1		EQ Status	
S1F1	Host ↔ EQ	Are You There Request	
S1F2	Host ↔ EQ	On-line Data	
S1F3	Host → EQ	Selected Equipment Status Request	
S1F4	Host ← EQ	Selected Equipment Status Data	
S1F11	Host → EQ	Status Variable Namelist Request	
S1F12	Host ← EQ	Status Variable Namelist Reply	
S1F13	Host ↔ EQ	Establish Communications Request	
S1F14	Host ↔ EQ	Establish Communications Request Acknowledge	
S1F15	Host → EQ	Request OFF-LINE	
S1F16	Host ← EQ	OFF-LINE Acknowledge	
S1F17	Host → EQ	Request ON-LINE	
S1F18	Host ← EQ	ON-LINE Acknowledge	
S2		EQ Control	
S2F13	Host → EQ	Equipment Constant Request (FDC Data List Request)	
S2F14	Host ← EQ	Equipment Constant Data (FDC Data List)	
S2F15	Host → EQ	New Equipment Constant Send	
S2F16	Host ← EQ	New Equipment Constant Acknowledge	
S2F17	Host ↔ EQ	Date and Time Request	
S2F18	Host ↔ EQ	Date and Time Data	
S2F29	Host → EQ	Equipment Constant Namelist Request	
S2F30	Host ← EQ	Equipment Constant Namelist	
S2F31	Host → EQ	Date and Time Data	
S2F32	Host ← EQ	Date and Time Set Acknowledge	
S2F33	Host → EQ	Define Report	
S2F34	Host ← EQ	Define Report Acknowledge	
S2F35	Host → EQ	Link Event Report	
S2F36	Host ← EQ	Link Event Report Acknowledge	
S2F37	Host → EQ	Enable/Disable Event Report	
S2F38	Host ← EQ	Enable/Disable Event Report Acknowledge	
S2F41	Host → EQ	Host Command Send	
S2F42	Host ← EQ	Host Command Acknowledge	
S2F49	Host → EQ	Enhanced Remote Command	

S2F50	Host ← EQ	Enhanced Remote Command Acknowledge
S5		Alarm
S5F1	Host ← EQ	Alarm Report Send
S5F2	Host → EQ	Alarm Report Acknowledge
S5F3	Host → EQ	Enable/Disable Alarm Send
S5F4	Host ← EQ	Enable/Disable Alarm Acknowledge
S5F5	Host → EQ	List Alarms Request
S5F6	Host ← EQ	List Alarm Data
S6		Data Collection
S6F11	Host ← EQ	Event Report Send
S6F12	Host → EQ	Event Report Acknowledge
S6F15	Host → EQ	Event Report Request
S6F16	Host ← EQ	Event Report Data
S6F19	Host → EQ	Individual Report Request
S6F20	Host ← EQ	Individual Report Data
S9		Abnormal
S9F1	Host ← EQ	Unrecognized Device ID
S9F3	Host ← EQ	Unrecognized Stream Type
S9F5	Host ← EQ	Unrecognized Function Type
S9F7	Host ← EQ	Illegal Data
S9F9	Host ← EQ	Transaction Timer Timeout
S9F11	Host ← EQ	Data Too Long

2 SECS- II / GEM MESSAGE DETAIL

2.1. S1F1(Are you there Request)

Stream	Function	Description	Wait Bit	Transfer
1	1	Establishes if the equipment is on-line. A function 0 response to this message means the communication is inoperative. In the equipment, a function 0 is equivalent to a timeout on the receive timer after issuing S1,F1 to the host.		

1) Definition

None

2) Message Structure

HEADER ONLY.

2.2. S1F2(On Line Data)

Stream	Function	Description	Wait Bit	Transfer
1	2	Data signifying that the equipment is alive.	0	H ↔ E

1) Definition

None

2) Message Structure

[Case 1 : Equipment → Host]

1. <L [2]

1. <A[6] MDLN> * Model Name of the equipment

2. <A[6] SOFTREV> * Software Revision Number

>

[Case2 : Host → Equipment]

1. <L [0]

>

2.3. S1F3(Selected Equipment Status Request)

Stream	Function	Description	Wait Bit	Transfer
--------	----------	-------------	----------	----------

1	3	A request to the equipment to report selected values of its status.	1	H → E
---	---	---	---	-------

1) Definition

None

2) Message Structure

1. <L [n] * n = Number of SV
- 1.. <U2 SVID> * Status Variable ID
- :
- n. <U2 SVID>
- >
- * n = 0 means report all SVIDs.

3) Example

※ Refer to the "IB-SEM Basic Specification" if you want a detail SVID info.

Case #1 Host request 4 SVID to the EQ

```
<L [5]
  <U2 [1] 17 > 'ControlState'
  <U2 [1] 21 > 'EnhancedCarriers'
  <U2 [1] 23 > 'EnhanceTransfers'
  <U2 [1] 25 > 'EnhancedVehicles'
  <U2 [1] 18 > 'CurrentPortStates'
>
```

2.4. S1F4(Selected Equipment Status Data)

Stream	Function	Description	Wait Bit	Transfer
1	4	The equipment reports the value of each SVID requested in the order requested. The host remembers the name of values requested.	0	H ← E

1) Definition

SV : Status Variable : Refer to the VID Table

2) Message Structure

1. <L [n] * n = Number of SV
1. <SVID> * Refer to the VID Table
- :
- n. <SVID> * Refer to the VID Table

>

* n = 0 means that SVID does not exist

2.5. S1F11(Status Variable Namelist Request)

Stream	Function	Description	Wait Bit	Transfer
1	11	A request to the equipment to determine values of specific status.	1	H → E

1) Definition

SVID : Status Variable : Refer to the VID Table

2) Message Structure

1. <L [n] * n = Number of SVID
 1. < U2 SVID> * Refer to the VID Table
 - :
 - n. <U2 SVID>
- >

* n = 0 means that SVID does not exist

2.6. S1F12(Status Variable Namelist Reply)

Stream	Function	Description	Wait Bit	Transfer
1	12	The equipment reports the name and unit of status variables requested.	0	H ← E

1) Definition

None

2) Message Structure

1. <L [n]
 1. <L [3]>
 1. <SVID>
 2. <SVNAME>
 3. <SVUNITS>
- >
- :

n. <L [3]>
 1. <SVID>
 2. <SVNAME>
 3. <SVUNITS>
 >
 >

2.7. S1F13(Establish Communications Request)

Stream	Function	Description	Wait Bit	Transfer
1	13	The purpose of this message is to provide a formal means of initializing communications at a logical application level both on power-up and following a break in communications. It should be the following any period where host and Equipment SECS applications are unable to communicate. An attempt to send an Establish Communications. Request (S1,F13) should be repeated at programmable intervals until an Establish Communications Acknowledge(S1,F14) is received within the transaction time-out period with an acknowledgement code accepting the establishment.	1	H ↔ E

1) Definition

None

2) Message Structure

[Case 1 : Equipment → Host]

1. <L [2]

1. <A[6] MDLN>
2. <A[6] SOFTREV>

* Model Name of the equipment *
 Software Revision Number

>

[Case 2 : Host → Equipment]

1. <L [0]

>

2.8. S1F14(Establish Communications Request Acknowledge)

Stream	Function	Description	Wait Bit	Transfer
1	14	Accept or deny Establish Communication Request.	1	H ↔ E

1) Definition

COMMACK

0 = ACK

1 = Denied, Retry

2-63 = Hold

2) Message Structure

[Case 1 : Equipment → Host]

1. <L [2]

1. <B [1] COMMACK>

2. <L [2]

1. <A[6] MDLN>

* Model Name of the equipment

2. <A[6] SOFTREV>

* Software Revision Number

>

Software Revision Number

>

[Case 2 : Host → Equipment]

1. <L [2]

1. <B [1] COMMACK>

2. <L [0]

>

>

2.9. S1F15(Request OFF-LINE)

Stream	Function	Description	Wait Bit	Transfer
1	15	The Host requests that the equipment transaction to the OFF-LINE state.	1	H → E

1) Definition

None

2) Message Structure

HEADER ONLY

2.10. S1F16(OFF-LINE Acknowledge)

Stream	Function	Description	Wait Bit	Transfer
1	16	Acknowledge or Error.	0	H ← E

1) Definition

OFLACK

Acknowledge code for OFF_LINE request

0 = Offline Confirmed

2-63 = Hold

2) Message Structure

1. <B [1] OFLACK>

2.11. S1F17(Request ON-LINE)

Stream	Function	Description	Wait Bit	Transfer
1	17	The Host requests that the equipment transaction to the ON-LINE state.	1	H → E

1) Definition

None

2) Message Structure

HEADER ONLY

2.12. S1F18(ON-LINE Acknowledge)

Stream	Function	Description	Wait Bit	Transfer
1	18	Acknowledge or error	0	H ← E

1) Definition

ONLACK

Acknowledge code for ON_LINE request

0 = ON_LINE Confirmed

1 = Not Allowed to go ON_LINE

2 = Already ON_LINE

3-63 = Hold

2) Message Structure

1. <B[1] ONLACK>

2.13. S2F13(Equipment Constant Request (FDC Data List Request))

Stream	Function	Description	Wait Bit	Transfer
2	13	Constants such as for calibration, servo gain, alarm limits, data collection mode, and other values that are changed infrequently can be obtained using this message.	1	H → E

1) Definition

* Default mode or this EC data use or not use should be discussed well between equipment maker and AIM

2) Message Structure

1. <L [n]

* n = Number of Equipment Constant

1. <U2 ECID>

:

- n. <U2 ECID>

>

* n = 0 means report all ECIDs.

2.14. S2F14(Equipment Constant Data (FDC Data List))

Stream	Function	Description	Wait Bit	Transfer
2	14	Data Response to S2F13 in the order requested.	0	H ← E

1) Definition

None

2) Message Structure

1. <L [n]

* n = Number of Equipment Constant

1. <L [3]

1. < A[6] ECV>

2. < A[16] ECV>

3. < A[16] ECV>

```

>
:
n. <L [3]
  1. <A[6] ECV>
  2. <A[16] ECV>
  3. <A[16] ECV>
>
>

```

2.15. S2F15(New Equipment Constant Send)

Stream	Function	Description	Wait Bit	Transfer
2	15	Change one or more equipment constants.	1	H → E

1) Definition

None

2) Message Structure

```

1. <L [n]
  1. <L [2]
    1. <U2 ECID>
    2. <U2 ECV>
  >
  :
n. <L [2]
  1. <U2 ECID>
  2. <U2 ECV>
>
>

```

2.16. S2F16(New Equipment Constant Acknowledge)

Stream	Function	Description	Wait Bit	Transfer
2	16	Acknowledge or Error. If EAC contains a non-zero error code, the equipment should not change any of the DVNAME,DVVAL specified in S2F15.	0	H ← E

1) Definition

EAC

Equipment acknowledge code

0 = acknowledge

1 = Denied, At least one constant does not exist

2 = Denied, Busy

3 = Denied, At least one constant out of range

>3 reserved

2) Message Structure

1. <B[1] EAC>

2.17. S2F17(Date and Time Request)

Stream	Function	Description	Wait Bit	Transfer
2	17	Useful to check equipment time base or for equipment to synchronize with the Host time base	1	H ← E

1) Definition

None

2) Message Structure

HEADER ONLY

2.18. S2F18(Date and Time Data)

Stream	Function	Description	Wait Bit	Transfer
2	18	Actual time data.	0	H → E

1) Definition

TIME : [Ascii 16 Byte] "YYYYMMDDhhmmsscc"

* This time should be used on the equipment controller. This Host time is the standard time for MCS

2) Message Structure

<A[16] TIME>

2.19. S2F29(Equipment Constant Namelist Request)

Stream	Function	Description	Wait Bit	Transfer
2	29	This function allows the host to retrieve basic information about what equipment constants are available in the equipment.	1	H → E

1) Definition

None

2) Message Structure

1. <L [n] >

* n = Number of Equipment Constant

1. <U2 ECID>

:

n. <U2 ECID>

>

* n = 0 means report all ECIDs.

2.20. S2F30(Equipment Constant Namelist)

Stream	Function	Description	Wait Bit	Transfer
2	30	Data Response	0	H ← E

1) Definition

None

2) Message Structure

1. <L [n] * n = Number of Equipment Constant

1. <L [6]

- 1. <U2 ECID> * Equipment Constant ID
- 2. <A[64] ECNAME> * Equipment Constant Name
- 3. <U2 ECMIN> * Smallest Equipment Constant
- 4. <U2 ECMAX> * Biggest Equipment Constant
- 5. <U2 ECDEF> * Specified Equipment Constant
- 6. <A[32] UNITS> * Equipment Constant Unit

>

:

n. <L [6]

- 1. <U2 ECIDn> * Equipment Constant ID
- 2. <A[64] ECNAME> * Equipment Constant Name
- 3. <U2 ECMIN> * Smallest Equipment Constant
- 4. <U2 ECMAX> * Biggest Equipment Constant
- 5. <U2 ECDEF> * Specified Equipment Constant
- 6. <A[32] UNITS> * Equipment Constant Unit

>

>

2.21. S2F31(Date and Time Data)

Stream	Function	Description	Wait Bit	Transfer
--------	----------	-------------	----------	----------

2	31	Useful to synchronize the equipment time with the host time base.	1	H → E
---	----	---	---	-------

1) Definition

TIME : [Ascii 16 Byte] "YYYYMMDDhhmmsscc"

* This time should be used on the equipment controller. This Host time is the standard time for MCS.

2) Message Structure

<A[16] TIME>

2.22. S2F32(Date and Time Set Acknowledge)

Stream	Function	Description	Wait Bit	Transfer
2	32	Acknowledge the receipt of time and date.	0	H ← E

1) Definition

TIACK

Time confirmation code

0 = OK

1 = Error, Not OK

2-63= Hold

2) Message Structure

<B[1] TIACK>

2.23. S2F33(Define Report)

Stream	Function	Description	Wait Bit	Transfer
2	33	Host computer specifies a series of event report for equipment.	1	H → E

1) Definition

None

2) Message Structure

<L [2]

1. <U4 DATAID>

* 0 : fixed

2. <L [n]

```

1. <L [2]
  1. <U2 RPTID>          * REPORT ID
  2. <L [m]
    1. <U2 VID>          * Variable ID
      :
    m. <U2 VID>          * Variable ID
  >
>
:
n. <L [2]
  1. <U2 RPTID>          * REPORT ID
  2. <L [k]
    1. <U2 VID>          * Variable ID
      :
    k. <VIDk>            * Variable ID
  >
>
>
>

```

* A list of zero-length following <DATAID> deletes all report definitions and associated links.

* A list of zero-length following <RPTID> deletes report type RPTID. All CEID links to this RPTID are also deleted.

2.24. S2F34(Define Report Acknowledge)

Stream	Function	Description	Wait Bit	Transfer
2	34	Define Report Acknowledge	0	H ← E

1) Definition

DRACK

Define Report Acknowledge code

0 = ACK

1 = Denied. Insufficient space

2 = Denied. Incorrect format

3 = Denied. At least one RPTID is already defined

4 = Denied. At least one VID is already defined

>4 = Some other Error

5-63 = Hold

2) Message Structure

<B[1] DRACK>

2.25. S2F35(Link Event Report)

Stream	Function	Description	Wait Bit	Transfer
2	35	Useful to report to Host When the collection event occurs	1	H → E

1) Definition

None

2) Message Structure

<L [2]

1. <U4 DATAID > * 0 : fixed

2. <L [n]

1. <L [2]

1. <U2 CEID> * Event Id

2. <L [m]

1. <U2 RPTID> * Report Id

:

m. <U2 RPTID> * Report Id

>

>

:

n. <L [2]

1. <U2 CEID> * Event Id

2. <L [k]

1. <U2 RPTID> * Report Id

:

k. <RPTID> * Report Id

>

>

>

>

2.26. S2F36(Link Event Report Acknowledge)

Stream	Function	Description	Wait Bit	Transfer
2	36	Link Event Report Acknowledge	0	H ← E

1) Definition

LRACK

Link Report Acknowledge code

0 = ACK

1 = Denied. Insufficient space

2 = Denied. Incorrect format

3 = Denied. At least one CEID link is already defined

4 = Denied. There isn't at least one CEID.

5 = Denied. There isn't at least one RPTID.

>5 = Some other Error

6-63 = Hold

2) Message Structure

<B[1] LRACK>

2.27. S2F37(Enable/Disable Event Report)

Stream	Function	Description	Wait Bit	Transfer
2	37	For the group event enable, disable event report to the host used to send	1	H → E

1) Definition

CEED

Collection event or trace enable/disable code

FALSE = Disable

TRUE = Enable

2) Message Structure

<L [n]

1. <BOOL CEED> *Event Enable/Disable Code

2. <L [n]

1. <U2 CEID> *Event ID

:

n. <U2 CEID> *Event ID

>

>

* n = 0 means all CEIDs.

2.28. S2F38(Enable/Disable Event Report Acknowledge)

Stream	Function	Description	Wait Bit	Transfer
2	38	Acknowledge to Event Enable/Disable Setting	0	H ← E

1) Definition

ERACK

Enable/Disable event setting code

0 = ACK

1 = Denied. There isn't at least one CEID.

>1 = Some other error

2-63 = Hold

2) Message Structure

<B[1] ERACK>

2.29. S2F41(Host Command Send)

Stream	Function	Description	Wait Bit	Transfer
2	41	The Host Requests the Equipment perform the specified remote command with the associated parameters.	1	H → E

1) Definition

RCMD : [ASCII 20 Bytes]

Remote Command

'PAUSE', 'RESUME', 'CANCEL', 'ABORT'

'PRIORITYUPDATE' : Change a Priority

2) Message Structure

[PAUSE], [RESUME]

<L [2]

1. <A "RCMD" > * 'PAUSE' or 'RESUME'

2. <L [0]

>

>

[CANCEL], [ABORT]

<L [2]

1. <A "RCMD" > * 'CANCEL' or 'ABORT'

2. <L [1]

```

1. <L [2]
  1. <A "COMMANDID" >
  2. <A "CommandId" >
  >
>

[PRIORITYUPDATE]
<L [2]
1. <A "RCMD" > * 'PRIORITYUPDATE'
2. <L [2]
  1. <L [2]
    1. <A "COMMANDID" >
    2. <A "CommandId" >
    >
  2. <L [2]
    1. <A "PRIORITY" >
    2. <U2 "Priority" >
    >
  >
>

```

2.30. S2F42(Host Command Acknowledge)

Stream	Function	Description	Wait Bit	Transfer
2	42	Acknowledge Host command or error. If command is not accepted due to one or more invalid parameters.	0	H ← E

1) Definition

HACK

Host Command Parameter Acknowledge Code

0 = Confirmed, the command was executed (The transport system doesn't use this value. Confirmation is made using the number 4 value.)

1 = Command does not exist

2 = Currently not able to execute

3 = At least one parameter is invalid, Parameter Update

4 = Confirmed, the command will be executed and completion will be notified by an

event

5 = Rejected, Already requested

6 = Object doesn't exist

7-63 = Hold

CPACK

Command Parameter Acknowledge Code

0 = No error

1 = CPNAME does not exist

2 = The incorrect value is specified in CPVAL

3 = The incorrect Format is specified in CPVAL

>3 = Another equipment error

4-63 = hold

* These HCAK, CPACK can be expanded the ack type by the discussion afterward.

2) Message Structure

[HCAK != 3] * in the case of no error

<L [2]

1. <B[1] HCAK> * Host Acknowledge

2. <L [0]

>

>

[HCAK = 3] * in the case of a non-valid parameter

<L,2

1. <B[1] HCAK> * Host Acknowledge

2. <L [n] * n = number of parameter groups

1. <L [2]

1. <A[32] CPNAME> * Command Parameter Name

2. <B[1] CPACK > * Control Parameter Ack Code

>

:

n. <L [2]

1. <A[32] CPNAME> * Command Parameter Name

2. <B[1] CPACK > * Control Parameter Ack Code

>

>

>

2.31. S2F49(Enhanced Remote Command)

Stream	Function	Description	Wait Bit	Transfer
2	49	The host requests an object to perform the specified remote command with its associated parameters.	1	H → E

1) Definition

RCMD : [ASCII 20 Bytes]

Remote Command

Remote Command

'TRANSFER'

2) Message Structure

[TRANSFER]

```

<L[4]
  <U4  0>                                /* DATAID */
  <A[0]  ">                                /* OBJSPEC */
  <A[8]  'TRANSFER'>                      /* RCMD */
  <L[2]
    <L[2]
      <A[11]  'COMMANDINFO'>              /* CPNAME */
      <L[2]
        <L[2]
          <A[9]  'COMMANDID'>              /* CPNAME */
          <A[6]  '111111'>                /* CPVAL[0~64] */
        >
      <L[2]
        <A[8]  'PRIORITY'>                /* CPNAME */
        <U2  5>                            /* CPVAL */
      >
    >
  >
  <L[2]
    <A[12]  'TRANSFERINFO'>              /* CPNAME */
    <L[10]
      <L[2]
        <A[9]  'CARRIERID'>              /* CPNAME */
        <A[8]  'CARRIER1'>              /* CPVAL[0~64] */
      >
      <L[2]
        <A[10]  'SOURCEPORT'>            /* CPNAME */
      >
    >
  >

```

```

        <A[6]  'PORTXX'>                                /* CPVAL[0~64] */
    >
    <L[2]
        <A[8]  'DESTPORT'>                                /* CPNAME */
        <A[6]  'PORTYY'>                                /* CPVAL[0~64] */
    >
    <L[2]
        <A[11] 'CARRIERTYPE'>                            /* CPNAME */
        <U1  1>                                           /* CPVAL */
    >
    <L[2]
        <A[9]  'EMPTYFLAG'>                                /* CPNAME */
        <U1  1>                                           /* CPVAL 0:EMPTY, 1:FULL */
    >
    <L[2]                                                  /* added for SDI */
        <A[9]  'PROCESSID'>                                /* CPNAME */
        <A[5]  'PRO01'>                                    /* CPVAL[0~64] */
    >
    <L[2]                                                  /* added for SDI */
        <A[7]  'BATCHID'>                                  /* CPNAME */
        <A[5]  'BAT01'>                                    /* CPVAL[0~64] */
    >
    <L[2]                                                  /* added for SDI */
        <A[5]  'LOTID'>                                    /* CPNAME */
        <A[5]  'LOT01'>                                    /* CPVAL[0~64] */
    >
    <L[2]                                                  /* added for SDI */
        <A[8]  'QUANTITY'>                                /* CPNAME */
        <U2  '56'>                                         /* CPVAL*/
    >
    <L[2]                                                  /* added for SDI */
        <A[15]  'CARRIERSTACKINFO'>                    /* CPNAME */
        <L[n]>
            <A[10]  "CARRIERID">                        /* CPVAL[0~64] */
            .
            <A[10]  "CARRIERIDn">                        /* CPVAL[0~64] */
        >
    >

```

>
>

2.32. S2F50(Enhanced Remote Command Acknowledge)

Stream	Function	Description	Wait Bit	Transfer
2	50	The equipment acknowledge Enhanced Remote Command or reports any error(s). If the command is not accepted due to one or more invalid parameters, (i.e. HCAK=3), then a list of invalid parameters will be returned containing the parameter name and reason for being invalid.	0	H ← E

1) Definition

HCAK

Host Command Parameter Acknowledge Code

0 = Confirmed, the command was executed (The transport system doesn't use this value. Confirmation is made using the number 4 value.)

1 = Command does not exist

2 = Currently not able to execute

3 = At least one parameter is invalid

4 = Confirmed, the command will be executed and completion will be notified by an

event

5 = Rejected, Already requested

6 = Object doesn't exist

7-63 = Hold

CPACK

Command Parameter Acknowledge Code

0 = No error

1 = CPNAME does not exist

2 = The incorrect value is specified in CPVAL

3 = The incorrect Format is specified in CPVAL >3 = Another equipment error

4-63 = hold

* These HCAK, CPACK can be expanded the ack type by the discussion afterward.

2) Message Structure

[HCAK != 3] * in the case of no error

<L [2]

1. <B[1] HCAACK> * Host Acknowledge

2. <L [0]

>

[HCAACK = 3] * in the case of a non-valid parameter

<L [2]

1. <B[1] HCAACK> * Host Acknowledge

2. <L [n] * n = number of parameter groups

1. <L [2]

1. <CPNAME1> * Command Parameter Name

2. <CPACK1 > * Control Parameter Ack Code

>

:

n. <L, 2

1. <CPNAMEn> * Command Parameter Name

2. <CPACKn > * Control Parameter Ack Code

>

>

>

2.33. S5F1(Alarm Report Send)

Stream	Function	Description	Wait Bit	Transfer
5	1	This message reports a change in or presence of an alarmcondition.	1	H ← E

1) Definition

ALCD : [Binary 1 Byte]

Alarm code

bit 8 = 1 generated alarm status

bit 8 = 0 clear alarm status

bit 7~1 is alarm category code

0 = not used

1 = Personal safety

2 = Equipment safety

3 = Parameter control warning

4 = Parameter control error

- 5 = Irrecoverable error
- 6 = Equipment state warning
- 7 = Attention flags
- 8 = Data integrity
- 9 = other categories

ALID : [Unsigned 4 Byte]

Alarm Identification

ALTX : [Ascii 80 Bytes]

Alarm text limited 80 characters.

Possible characters are limited as following : a~z, A~Z, 0~9, _ , space

2) Message Structure

1. <L [3]

- 1. <ALCD> * Alarm Code
 - 2. < ALID> * Alarm ID
 - 3. < ALTX> * Alarm Text
- >

2.34. S5F2(Alarm Report Acknowledge)

Stream	Function	Description	Wait Bit	Transfer
5	2	Acknowledge or error.	0	H → E

1) Definition

ACKC5

0 = ACK

>0 = Error, could not ACK

1-63 = Hold

2) Message Structure

1. <B[1] ACKC5>

2.35. S5F3(Enable/Disable Alarm Send)

Stream	Function	Description	Wait Bit	Transfer
5	3	This message will change the state of the enable bit in the equipment. The enable bit determines if the alarm will be sent to the	1	H→E

		host. Alarms which are not controllable in this way are unaffected by this message		
--	--	--	--	--

1) Definition

None

2) Message Structure

1. <L [2]

1. <B[1] ALED>

2. <U4 ALID>

>

* Alarm Valid/Invalid Code *
Alarm ID

2.36. S5F4(Enable/Disable Alarm Acknowledge)

Stream	Function	Description	Wait Bit	Transfer
5	4	Acknowledge to Alarm Valid/Invalid Setting	0	H ← E

1) Definition

ACKC5

0 = ACK

>0 = Error, could not ACK

1-63 = Hold

2) Message Structure

1. <B[1] ACKC5>

2.37. S5F5(List Alarms Request)

Stream	Function	Description	Wait Bit	Transfer
5	5	This message requests the equipment to send binary and analog alarm information to the host.	1	H → E

1) Definition

None

2) Message Structure

1. <L[n]

1. <U4 ALID>

:

n. <U4 ALID>

>

*Requested Alarm ID

*Requested Alarm ID

* n = 0 means report all alarms regardless of the state of ALED.

2.38. S5F6(List Alarm Data)

Stream	Function	Description	Wait Bit	Transfer
5	6	Acknowledge to Alarm List Request	0	H ← E

1) Definition

None

2) Message Structure

1. <L [n]

1. <L [3]

1. <B1 ALCD> * Alarm Code
2. <U4 ALID> * Alarm Id
3. <A[80] ALTX> * Alarm Text

>

:

n. <L [3]

1. <B1 ALCD> * Alarm Code
2. <U4 ALID> * Alarm Id
3. <A[80] ALTX> * Alarm Text

>

>

2.39. S6F11(Event Report Send)

Stream	Function	Description	Wait Bit	Transfer
6	11	The equipment send a defined, linked ,and enabled group of reports to Host upon the occurrence of an event	1	H ← E

1) Definition

None

2) Message Structure

[RPTID = 1]

<L [3]

1. <U4 DATAID>
2. <U2 CEID>

```

3. <L [1]
  1. <L [2]
    1. <U2 RPTID>
    2. <L[1]
      1. <A EqpName>
    >
  >
>

```

```

[RPTID = 2]
<L [3]
  1. <U4 DATAID>
  2. <U2 CEID>
  3. <L [1]
    1. <L [2]
      1. <U2 RPTID>
      2. <L[2]
        1. <A CommandID>
        2. <L[2]
          1. <A VehicleID>
          2. <U2 VehicleState>
        >
      >
    >
  >
>

```

```

[RPTID = 3]
<L [3]
  1. <U4 DATAID>
  2. <U2 CEID>
  3. <L [1]
    1. <L [2]
      1. <U2 RPTID>
      2. <L[2]
        1. <A CommandID>
        2. <L[n]
          1. <L[2]

```



```

1. <L[2]
  1. <L[3]
    1. <A CarrierID>
    2. <A SourcePort>
    3. <A DestPort>
  >
  2. <A CarrierLoc>
>
>
3. <U2 ResultCode>
>
>
>
>

```

[RPTID = 6]

```

<L [3]
  1. <U4 DATAID>
  2. <U2 CEID>
  3. <L [1]
    1. <L [2]
      1. <U2 RPTID>
      2. <L[6]
        1. <A VehicleID>
        2. <A CarrierID>
        3. <A CarrierLoc>
        4. <A CommandID>
        5. <U1 CarrierType>
      >
    >
  >
>

```

~~—— [RPTID = 7]~~

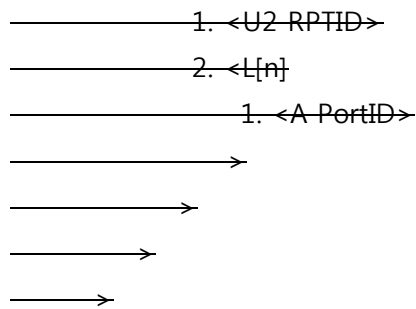
~~—— <L [3]~~

~~—— 1. <U4 DATAID>~~

~~—— 2. <U2 CEID>~~

~~—— 3. <L [1]~~

~~—— 1. <L [2]~~



[RPTID = 8]

<L [3]

1. <U4 DATAID>
2. <U2 CEID>
3. <L [1]
 1. <L [2]
 1. <U2 RPTID>
 2. <L[7]
 1. <A CommandID>
 2. <A CommandType>
 3. <A CarrierID>
 4. <A SourcePort>
 5. <A DestPort>
 6. <U2 Priority>
 7. <U1 CarrierType>

>

>

>

>

[RPTID = 9]

<L [3]

1. <U4 DATAID>
2. <U2 CEID>
3. <L [1]
 1. <L [2]
 1. <U2 RPTID>
 2. <L[2]
 1. <A VehicleID>
 2. <A TransferPort>

>

>

>
>

[RPTID = 10]

<L [3]
1. <U4 DATAID>
2. <U2 CEID>
3. <L [1]
1. <L [2]
1. <U2 RPTID>
2. <L[3]
1. <A VehicleID>
2. <A TransferPort>
3. <A CarrierID>
>
>
>
>

[RPTID = 11]

<L [3]
1. <U4 DATAID>
2. <U2 CEID>
3. <L [1]
1. <L [2]
1. <U2 RPTID>
2. <L[2]
1. <A VehicleID>
2. <A CommandID>
>
>
>
>

[RPTID = 12]

<L [3]
1. <U4 DATAID>
2. <U2 CEID>
3. <L [1]

```

1. <L [2]
  1. <U2 RPTID>
  2. <L[1]
    1. <A VehicleID>
    >
  >
>

```

[RPTID = 13]

```

<L [3]
  1. <U4 DATAID>
  2. <U2 CEID>
  3. <L [1]
    1. <L [2]
      1. <U2 RPTID>
      2. <L[3]
        1. <A UnitID>
        2. <U4 AlarmID>
        3. <A AlarmText>
        >
      >
    >
  >

```

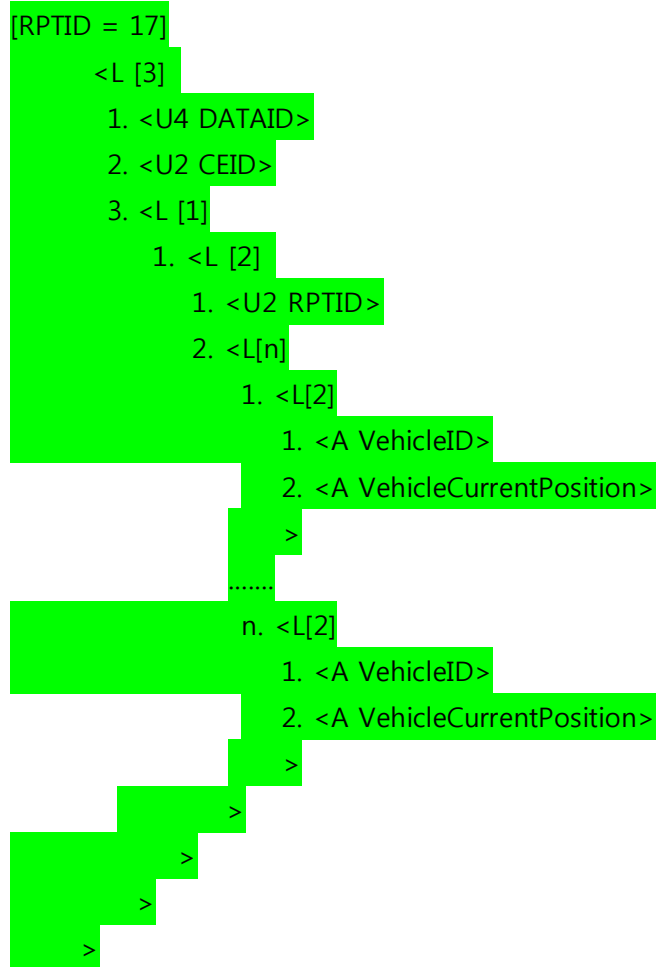
[RPTID = 15]

```

<L [3]
  1. <U4 DATAID>
  2. <U2 CEID>
  3. <L [1]
    1. <L [2]
      1. <U2 RPTID>
      2. <L[2]
        1. <A VehicleID>
        2. <A VehicleCurrentPosition>
        >
      >
    >

```

>



2.40. S6F12(Event Report Acknowledge)

Stream	Function	Description	Wait Bit	Transfer
6	12	Acknowledge or error.	0	H → E

1) Definition

ACKC6

0 = ACK

>0 = Error, could not ACK

1-63 = Hold

2) Message Structure

1. <B[1] ACKC6>

2.41. S6F15(Event Report Request)

Stream	Function	Description	Wait Bit	Transfer
6	15	The purpose of this message is for the host to demand a given report	1	H → E

1) Definition

None

2) Message Structure

1. <U2 CEID>

2.42. S6F16(Event Report Data)

Stream	Function	Description	Wait Bit	Transfer
6	16	Equipment sends reports linked to given CEID to host.	0	H ← E

1) Definition

None

2) Message Structure

Same as Event Report Send

2.43. S6F19(Individual Report Request)

Stream	Function	Description	Wait Bit	Transfer
6	19	The purpose of this message is for the host to request a defined report from the equipment.	1	H → E

1) Definition

None

2) Message Structure

1. <U2 RPTID>

2.44. S6F20(Individual Report Data)

Stream	Function	Description	Wait Bit	Transfer
--------	----------	-------------	----------	----------

6	20	Equipment sends variable data defined for the given RPTID to the host	0	H ← E
---	----	---	---	-------

1) Definition

None

2) Message Structure

1. <L [n]
1. <V>
- :
- n. <V>
- >

* n = 0 means RPTID is not defined

2.45. S9F1(Unrecognized Device ID)

Stream	Function	Description	Wait Bit	Transfer
9	1	The device ID in the message block header did not correspond to any known device ID in the node detection the error.	0	H ← E

1) Definition

MHEAD : [Binary 10 Bytes]

SECS message block header associated with message block in error

2) Message Structure

<MHEAD>

2.46. S9F3(Unrecognized Stream Type)

Stream	Function	Description	Wait Bit	Transfer
9	3	The equipment does not recognize the stream type in the message block header.	0	H ← E

1) Definition

MHEAD : [Binary 10 Bytes]

SECS message block header associated with message block in error

2) Message Structure

<MHEAD>

2.47. S9F5(Unrecognized Function Type)

Stream	Function	Description	Wait Bit	Transfer
9	5	This message indicates that the function in the message ID is not recognized by the receiver.	0	H ← E

1) Definition

MHEAD : [Binary 10 Bytes]

SECS message block header associated with message block in error

2) Message Structure

<MHEAD>

2.48. S9F7(Illegal Data)

Stream	Function	Description	Wait Bit	Transfer
9	7	This message indicates that the stream and function were recognized but the associated data format could not be interpreted.	0	H ← E

1) Definition

MHEAD : [Binary 10 Bytes]

SECS message block header associated with message block in error

2) Message Structure

<MHEAD>

2.49. S9F9(Transaction Timer time-out)

Stream	Function	Description	Wait Bit	Transfer
9	9	This message indicates that a transaction(receive) timer has timed out and that the corresponding transaction has been aborted.	0	H ← E

1) Definition

SHEAD : [Binary 10 Bytes]

Stored header related to the transaction timer

2) Message Structure

<SHEAD>

2.50. S9F11(Data Too Long)

Stream	Function	Description	Wait Bit	Transfer
9	11	This message to the Host indicate that the Equipment has been sent more data than it can handle	0	H ← E

1) Definition

MHEAD : [Binary 10 Bytes]

SECS message block header associated with message block in error

2) Message Structure

<MHEAD>