Mdvr Network communication protocol

Supplementary documents

(based on V0.00.30_150608)

Product name	Doc NO.	Product version	Secret level
MDVR			Internal

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Instruction

1.1 Purpose of writing

In order to reduce the development difficulty and communication cost of device docking, this document does an actual packet capture analysis of "mdvr Network Communication Protocol", and supplements the description according to the actual packet protocol format to facilitate developers to dock the corresponding platform.

1.2 References

《mdvr Network communication protocol V0.00.30_150608》

1.3 Terms and abbreviations

GPS: Global Position System

MDVR: Mobile Digital Video Recorder

CMS: Center Monitor System

Device：MDVR

Center：CMS

Data protocol analysis

2.1 Signaling channel

2.1.1 Registration command V101

- Protocol format
- $$ dc Command Length, transmission serial number, keyword of this instruction, device serial number, workstation serial number, instruction sending time, location and status, number of people on board, protocol version, device type, login server address ip, port number, today Number of power-on starts, number of connections established since

the last power-on, license plate number, network type, network name, audio type, hard disk type, manufacturer type, manufacturer device type, IMEI number, host version, network library version, #

- Protocol description

Field group name	Field		Description	可空	eg
	Keyword of this instruction		V101	×	V101
	Device serial number			×	00007
	workstation serial number			√	
	instruction sending time		YYMMDD hhmmss	×	180903 094112
	Position & Status	location status	‘A’ means the related GPS data is reliable and effective，’V’ means the data is not necessarily reliable, this situation usually occurs when the number of tracking satellites is insufficient.A0010 means there are 10 satellites	×	A0010,114,3,341826000,22,40,236220000,0.00,7000,000E00010101D383,0000000000000000,0.00,0.00,0.00,0,0.00,67,0|0.00|0|0|0|0|0|0|0
		longitude	Degrees, minutes, and seconds are separately indicated by integers.The range of degrees-179~179，A positive value indicates east longitude and a negative value indicates west longitude.eg’-80,89,920’ means West longitude80° 89'0920".In this case：114,3,341826000		
		latitude	Degrees, minutes, and seconds are separately indicated by integers.The range of degrees-89~89，Positive values indicate north latitude, and negative values indicate south latitude.eg’-80,89,920’means south latitude 80° 89'0920".In this case：22,40,236220000		
		Ground rate	Integer representation.Take the GPS speed.unit:km/hour。		
		Ground course	Integer representation.That is the gps angle.		
		Component status and warning signs	16 ASCII codes. Each 2 ASCII represents 1 byte in hexadecimal form. For example, "FA8CDEA09BA7CFFA" means that the first byte is 0xFA, the second byte is 0x8C, and so on.		
		Part status and warning	16 ASCII codes. Each 2 ASCII represents 1 byte in hexadecimal form. Each byte corresponds		

		flag mask	one-to-one with the status byte of the component. When the byte bit of the mask is 0, it means that the corresponding component status bit is meaningless, that is, the center must be ignored; when it is 1, it means that the corresponding component status bit is meaningful, and the center must process it. Usually the mask of the device is fixed in a specific project.		
		Equipment temperature	String representation of floating point numbers, with 2 decimal places reserved. Do not use the '+' symbol when it is positive. For example, '-32.00' means minus 32 ℃		
		Engine temperature	Same as above		
		Inside temperature	Same as above		
		mileage	Unit Meter1113234 = 1113.234Kilometers		
		Fuel consumption	Fuel consumption liter 9999 = 99.99		
		Parking time	sec		
		RPM|SPEED			
	Number of people on board			√	
	Protocol version		The version of the communication protocol specification. The format is "0.0.x.xx", where x represents a number.	×	V1.0.0.1
	Device type		Integer representation: using 4 bytes, the second byte represents the machine type, and the byte represents the number of channels. His3512：2，In order to keep the previous state consistent, this type will not be modified temporarily. 10 means 3515series 04 means 4channels 08 means 8channels Hi3512，4ch device：2。 Hi3515，4ch device：0x00001004 = 4100。 Hi3515，8 路机：0x00001008 = 4104。	×	4108
	Login server address		The address and port of the signaling server, “xxx.xxx.xxx.xxx,nnnnn” eg: “61.141.158.118,9000”	√	
	Port number			√	0
	Number of power-ups		Integer ASCII code, 1 ~ 65535. Indicates that	×	0

	on the day	the device has been restarted several times so far. This field is useful for diagnosing equipment failures.		
	Number of connections established since the last power-on	Integer ASCII code, 1 ~ 65535. Indicates that the device has successfully connected to the signaling server several times since the recent restart. This field is useful for diagnosing equipment failures.	×	0
	Vehicle number	Unicode Text, up to 32 characters.	√	123
	Network type	0 is 3G，1 is WIFI，2 means online，3 is 4G	√	2
	Network name	When the network type is WIFI,Indicates the ssid name of the connected WIFI network	√	
	Audio type	#define PLAY_A_TYPE_G726_40KBPS 1 #define PLAY_A_TYPE_ADPCM 2 #define PLAY_A_TYPE_G726_MEDIA_40KBPS 3 #define PLAY_A_TYPE_G726_MEDIA_32KBPS 4 #define PLAY_A_TYPE_G726_MEDIA_24KBPS 5 #define PLAY_A_TYPE_G726_MEDIA_16KBPS 6 #define PLAY_A_TYPE_G726_32KBPS 7 #define PLAY_A_TYPE_G726_24KBPS 8 #define PLAY_A_TYPE_G726_16KBPS 9 #define PLAY_A_TYPE_G711A 10 #define PLAY_A_TYPE_G711U 11	√	1
	Hard Drive Type	1SDcard，2hdd，3 SSD	√	1
	Manufacturer type		√	2
	Manufacturer equipment type		√	101
	IMEI number		√	
	Host version		√	D2017120781
	Network library version		√	V6.1.45 20160519

- Example

sender	**receiver**	Need auto answer	Need to answer manually
Device	Center	√	×
Example Command			
Send Command	$$dc0227,20,V101,00007,,180903094112,A0010,114,3,341826000,22,40,236220000,0.00,7000,000E00010101D383,0000000000000000,0.00,0.00,0.00,0,0.00,67,0|0.00|0|0|0|0|0|0|0,,V1.0.0.1,4108,,0,0,0,123,2,,1,1,2,101,,D2017120781,V6.1.45 20160519,#		
Description	Means Device 00007（The license plate number set on the device side is 123）Initiate registration		

	with the server.
Response Command	
Successful response	$$dc0054,9,C100,00007,,180903 110152,V101,180903 110150,0,1,1,#
Description	Indicates successful registration.
Failed response	$$dc0055,21,C100,00007,,180903 094144,V101,180903 094142,0,1,2,#
Description	Means registration failed

2.1.2 Device Heartbeat Bag V109

- Protocol Format

  $$dcCommand Length, transmission serial number, keyword of this instruction, device serial number, workstation serial number, instruction sending time #

- Protocol description

Field group name	Field	Description	可空	example
	Keyword of this instruction	V109	×	V109
	Device serial number		×	00007
	Workstation serial number		√	
	Instruction sending time	YYMMDD hhmmss	×	180903 110250

- Example

sender	receiver	Need auto answer	Need to answer manually
Device	Center	√	×
example			
Send Command	$$dc0029,13,V109,00007,,180903 110250#		
Description	Means device 00007 Send heartbeat packets to the server		
Response command			
Successful response	$$dc0028,2,C501,00007,,180903 110253#		
Description			

2.1.3 Report location V114

- Protocol format

  $$dcCommand Length, transmission serial number, keyword of this instruction, device serial number, workstation serial

number, instruction sending time, location and status, drive flag #

- Protocol Instructions

Field group name	Field		Description	可空	example
	Keyword of this instruction		V114	×	V114
	Device serial number			×	00007
	Workstation serial number			√	
	Instruction sending time		YYMMDD hhmmss	×	180903 135949
	Position & Status	Positioning status	‘A’ indicates that the related GPS data is reliable and effective, and ‘V’ indicates that the data is not necessarily reliable. This situation usually occurs when the number of tracking satellites is insufficient. A0010 means there are 10 satellites	×	A0010,114,3,338214000,22,40,220920000,0.00,1521000,000E00010101D383,0000000000000000,0.00,0.00,0.00,0,0.00,2266,0|0.00|0|0|0|0|0|0|0
		longitude	Degrees, minutes, and seconds are separately indicated by integers. The range of degrees is -179 ~ 179, positive values indicate east longitude, and negative values indicate west longitude. For example, ‘-80,89,920’ means longitude 80° 89’ 0920 ". In this example: 114,3,341826000		
		latitude	Degrees, minutes, and seconds are separately indicated by integers. The range of degrees is -89 ~ 89, positive values indicate north latitude, and negative values indicate south latitude. For example, ‘-80,89,920’ means latitude 80° 89’ 0920 ". In this example: 22,40,236220000		
		Ground rate	Integer representation. Take the GPS speed. Unit:km/hour。		
		Ground course	Integer representation, that is, gps angle.		
		Component status and warning signs	16 ASCII codes. Each 2 ASCII represents 1 byte in hexadecimal form. For example, "FA8CDEA09BA7CFFA" means that the first byte is 0xFA, the second byte is 0x8C, and so on.		
		Part status and warning	16 ASCII codes. Each 2 ASCII represents 1 byte in hexadecimal form. Each byte corresponds		

		flag mask	one-to-one with the status byte of the component. When the byte bit of the mask is 0, it means that the corresponding component status bit is meaningless, that is, the center must be ignored; when it is 1, it means that the corresponding component status bit is meaningful, and the center must process it. Usually the mask of the device is fixed in a specific project.		
		Equipment temperature	String representation of floating point numbers, with 2 decimal places reserved. Do not use the '+' symbol when it is positive. For example, '-32.00' means minus 32 ℃		
		Engine temperature	Same as above		
		Inside temperature	Same as above		
		mileage	Unit meter 1113234 = 1113.234kms		
		Fuel consumption	Fuel consumption liter 9999 = 99.99		
		Parking time	sec		
		RPM|SPEED			
	Drive sign		What factors are driving this instruction 0: Real-time position monitoring instruction issued by the center 1: fixed upload parameters 2: The current position and status command issued by the center 3: To synchronize with the video stream being transmitted	×	1

- example

sender	receiver	Need auto answer	Need to answer manually
device	center	×	×
example			
send command	$$dc0165,192,V114,00007,,180903 135949,A0010,114,3,338214000,22,40,220920000,0.00,1521000,000E00010101D383,0000000000000000,0.00,0.00,0.00,0,0.00,2266,0|0.00|0|0|0|0|0|0|0,1#		
Command Description	Indicates that device 0007 reports the location package to the server.		
Response command			
Successful response			
Command description			

2.1.4 Start and stop video reporting C508

- Protocol format

  $$dc Command length, transmission serial number, keyword of this instruction, device serial number, workstation serial number, instruction sending time, session ID, start-stop mark, channel number, code stream type, connection type, media server address, port #

- Protocol instructions

Field group name	Field	Description	可空	example
	Keyword of this instruction	C508	×	C508
	Device serial number		×	00007
	Workstation serial number		√	
	Instruction sending time	YYMMDD hhmmss	×	180903 170716
	Conversation ID	Take new UUID value	×	45649064
	Start stop mark	0：Stop video upload 1：Start video upload	×	1
	Channel Number	0～15/99/98. Integer ASCII code string representation, 0 means channel 1, and so on; 99 means virtual full channel (virtual full channel image is a combined picture divided and arranged, each picture represents a physical channel); 98 means all channels. At present, it is possible to take -1 only when the video upload is stopped, which means to stop all the channels of the video being uploaded (including the virtual full channel)	×	0
	Stream type	0 means Main stream, 1 means sub stream	×	1
	Connection type	0 means TCP， 1 means UDP, 2 means multicast, currently only supports TCP	×	0
	Media server address and port	ASCII code, such as '61 .141.158.118,9000 '. The video stream is transmitted to the server through a separate media channel. If it is empty when the upload is started, the address is determined by the device according to the settings of the machine, and it is empty when the upload is stopped.	√	192.168.10.140,6602

- Example data

sender	receiver	Need auto answer	Need to answer manually
Center	device	√	×
Example			
Send Command	$$dc0067,370,C508,00007,,180903 170716,45649064,1,0,1,0,192.168.10.140,6602#		
Command Instructions	It means to start the real-time image of the first channel, the media server is 192.168.10.140:6602.		
Response command			
Successful response	$$dc0190,370,V100,00007,,180903 170714,A0010,114,3,337788000,22,40,230304000,0.00,2265900,000E00010101D383,0000000000000000,0.00,0.00,0.00,0,0.00,61,0|0.00|0|0|0|0|0|0|0,,C508,180903 170716,0,1,1,,0#		
Command Instructions			
Failed response			
Command Instructions			

2.1.5 Custom alarm reporting V201/V251

Protocol format $$dcInstruction length, transmission serial number, keyword of this instruction, device serial number, workstation serial number, instruction sending time, position and status when triggered, alarm time, alarm UID, snapshot picture, picture address, alarm recording, recording address, self Define alarm number, alarm source, alarm name #

- Protocol instructions

Field group name	Field	Description	可空	example
	Keyword of this instruction	start：V201 end：V251	×	V201 V251
	Device serial number		×	2014
	Workstation serial number		√	
	Command sending time	YYMMDD hhmmss	×	180904 104340
	Position and Status		×	A0010,114,3,338100000,22,40,207299999,0.00,1077700,0D0000020101D783,0000000000000000,0.00,0.00,0.00,0,0.00,1092,0|0.00|0|0|0|0|0|0|0,
	Alarm time		×	180904 104340
	Alarm UID		×	A4362779F6557409

	Picture shot		√	0
	The map's address		√	
	Alarm recording		√	0
	Video address		√	
	Custom alarm number		√	2
	Alarm source		√	0
	Alarm Name		√	

➢ Example data

sender	receiver	Need auto answer	Need to answer manually
device	Center	√	×
Example command			
Send command	$$dc0203,8,V201,2014,,180904 104340,A0010,114,3,338100000,22,40,207299999,0.00,1077700,0D0000020101D783,0000000000000000,0.00,0.00,0.00,0,0.00,1092,0\|0.00\|0\|0\|0\|0\|0\|0\|0,,180904 104340,A4362779F6557409,0,,0,,2,0,# $$dc0202,9,V251,2014,,180904 104346,A0009,114,3,338040000,22,40,207360000,0.00,426800,0F0000000100D783,0000000000000000,0.00,0.00,0.00,0,0.00,1098,0|0.00|0|0|0|0|0|0|0,,180904 104346,A4363F74F655770A,0,,0,,2,0,#		
Command instruction			
Response command			
Successful response	$$dc0065,8,C100,2014,,180904 104354,V201,180904 104340,0,A4362779F6557409# $$dc0065,9,C100,2014,,180904 104354,V251,180904 104346,0,A4363F74F655770A#		
Command instruction			

2.1.6 Alarm file upload V232

➢ Protocol format

$$dcInstruction length, transmission serial number, keyword of this instruction, device serial number, workstation serial number, instruction sending time, location and status when triggered, alarm time, alarm UID, snapshot picture, picture address, alarm recording, recording address, file Type (picture or video), absolute file path, file length, file type (regular or alarm), file start time, file length, channel number, reserved parameter #

➢ Protocol instruction

Field group name	Field	Description	可空	example
	Keyword of this instruction	V232	×	V232
	Device serial number		×	2014
	Workstation serial number		√	
	Command sending time	YYMMDD hhmmss	×	180904 104356
	Position and Status		×	A0009,114,3,337200000,22,40,208980000,0.00,3342900,0F0000000100D783,0000000000000000,0.00,0.00,0.00,0,0.00,1108,0|0.00|0|0|0|0|0|0|0,
	Alarm time		×	180904 104356
	Alarm UID		×	A436667CF6557C0B
	Picture shot		√	0
	The map's address		√	
	Alarm recording		√	0
	Video address		√	
	File type (picture or video)	//File type definition #define FILE_TYPE_JPEG 1 //picture #define FILE_TYPE_JPEG 2 //Video file	×	2
	File absolute path		×	/ssyhdd/0/p1/2018-09-04/241-02-104340-104356-05p100.h264
	File length		×	655360
	File type (regular or alarm)	TYPE_NORMAL 1 //regular recording TYPE_ALARM 2 //Alarm recording	×	2
	File start time		×	2018-09-04 104337
	File length	Unit seconds, please pass as 0 when it is a picture	×	19
	Channel number	Start from 0	√	1
	Retain parameters		√	

- Example data

sender	receiver	Need auto answer	Need to answer manually
device	Center	√	×
Example command			
Send command	$$dc0299,10,V232,2014,,180904 104356,A0009,114,3,337200000,22,40,208980000,0.00,3342900,0F0000000100D783,0000000000000000,0.00,0.00,0.00,0,0.00,1108,0|0.00|0|0|0|0|0|0|0,,180904 104356,A436667CF6557C0B,0,,0,,2,/ssyhdd/0/p1/2018-09-04/241-02-104340-104356-05p100.h264,655360,2,2018-09-04 104337,19,1,0,3,0,0,#		
Command instruction			

Command response	
Successful response	$$dc0066,10,C100,2014,,180904 104400,V232,180904 104356,0,A436667CF6557C0B#
Command instruction	

2.1.7 Alarm file upload C702

- Protocol format

  $$dc Transmission serial number, keyword of this instruction, device serial number , serial number of workstation, instruction sending time, session ID, offset flag, start size offset, end size offset, media server address ip, port, file name#

- Protocol instruction

Field group name	Field	Description	可空	example
	Keyword of this instruction	C702	×	C702
	Device serial number		×	2014
	Workstation serial number		√	
	Command sending time	YYMMDD hhmmss	×	180904 104400
	Communication ID		×	32415600
	Offset flag	0: complete file download 1: Download by size offset 2: Download according to time offset	×	3
	Starting size offset	The offset from the file header, in bytes. The ASCII code of the integer, ranging from 0 to 4,294,967,295.	×	0
	End size offset	The offset from the file header, in bytes. Integer ASCII code, range 0 ~ 4,294,967,295. 0 means no end of file	×	0
	Media server address ip	ASCII code, such as '61 .141.158.118,9000 '. The download file stream can be transmitted to the server through a separate media channel. If it is empty, the address is determined by the device according to the settings of this machine.	×	192.168.10.140
	port		×	6612
	Doc name	Unicode Text, up to 256 characters.	×	/ssyhdd/0/p1/2018-09-04/241-02-104340-104356-05p100.h264

➢

➢ Example instruction

sender	receiver	Need auto answer	Need to answer manually
Center	Device	√	×
Example command			
send command	$$dc0119,2,C702,2014,,180904 104400,32415600,3,0,0,192.168.10.140,6612,/ssyhdd/0/p1/2018-09-04/241-02-104340-104356-05p100.h264#		
Command Description			
Response command			
Successful response	$$dc0187,2,V100,2014,,180904 104357,A0009,114,3,337200000,22,40,208980000,0.00,3342900,0D0000000100D783,0000000000000000,0.00,0.00,0.00,0,0.00,1108,0|0.00|0|0|0|0|0|0|0,,C702,180904 104400,0,1,0,#		
Command instruction			

2.1.8 The device gets a list of files to download V141

➢ Protocol format

$$dc Instruction length, transmission serial number, keyword of this instruction, Device serial number, workstation serial number, instruction sending time, location and status #

➢ Protocol Instruction

Field group name	Field	Description	可空	example
	Keyword of this instruction	V141	×	V141
	Device serial number		×	2014
	Workstation serial number		√	
	Command sending time	YYMMDD hhmmss	×	180904 104350
	Position and Status		×	A0009,114,3,337620000,22,40,207960000,0.00,3435900,0F0000000100D783,0000000000000000,0.00,0.00,0.00,0,0.00,1102,0|0.00|0|0|0|0|0|0|0,

➢ Example data

sender	receiver	Need auto answer	Need to answer manually
Device	Center	√	×

Send Command	$$dc0163,135,V141,2014,,180904 104350,A0009,114,3,337620000,22,40,207960000,0.00,3435900,0F0000000100D783,0000000000000000,0.00,0.00,0.00,0,0.00,1102,0|0.00|0|0|0|0|0|0|0,#
Command Instructions	
Response command	
Successful response	$$dc0065,135,C100,2014,,180904 104354,V141,180904 104350,0,0,0,0,,,0,,0,,#
Command Instructions	Logo, file type, file ID, file path, server IP, port, md5 check, file parameter length, file parameter, reserved parameter

2.2 Media channel

2.2.1 Media Registration Instructions V102

- Protocol format

  @@$$dc Instruction length, transmission sequence number, keyword of this instruction, device serial number, workstation serial number, instruction sending time, location and status, protocol version, device type, login server address ip, port, session ID, session initiation instruction, channel number , Stream type, license plate number #

- Protocol instruction

Field group name	Field	Description	可空	example
	Keyword of this instruction	V102	×	V102
	Device serial number		×	00007
	Workstation serial number		√	
	Command sending time	YYMMDD hhmmss	×	180903 094112

	Position and Status	Refer to V101.	×	A0010,114,3,337788000,22,40,230304000,0.00,2265900,000E00010101D383,0000000000000000,0.00,0.00,0.00,0,0.00,61,0|0.00|0|0|0|0|0|0|0,
	Protocol version		×	V1.0.0.1
	Equipment type		×	4108
	Login server address		×	192.168.10.140
	The port number		×	6602
	Session ID		×	45649064
	Session initiation instruction		×	C508
	Channel number		×	0
	Stream type		×	1
	number plate		√	123

➢ Example data

sender	receiver	Need auto answer	Need to answer manually
Device	Center	√	×
Command instruction			
send command	@@$$dc0216,1,V102,00007,,180903170714,A0010,114,3,337788000,22,40,230304000,0.00,2265900,000E00010101D383,0000000000000000,0.00,0.00,0.00,0,0.00,61,0|0.00|0|0|0|0|0|0|0,,V0.0.0.1,4108,192.168.10.140,6602,45649064,C508,0,1,123#		
Command Description	Indicates that the device 0007 (the set license plate number is 123) initiates registration with the media server 192.168.10.140:6602, the session is initiated by the device, and the full channel real-time video is to be transmitted.		
Command response			
Successful response	4040006008000000010000000000000		
Instructions	0x6000 Media registration feedback (PC ====> Device) Refer to new media format.		
Failed response			
Instructions			

2.2.2 Download file block V103

- Protocol format

  @@$$dcInstruction length, transmission serial number, keyword of this instruction, device serial number, workstation serial number, instruction sending time, location and status, protocol version, device type, login server address ip, port number, session ID, file size, file name | Vehicle number

- Protocol instruction

Field group name	Field	Description	可空	example
	Keyword of this instruction	V103	×	V103
	Car serial number		×	2014
	Workstation serial number		√	
	Instruction sending time	YYMMDD hhmmss	×	180904 104400
	Location and status		×	A0009,114,3,337200000,22,40,208980000,0.00,3342900,0D0000000100D783,0000000000000000,0.00,0.00,0.00,0,0.00,1108,0|0.00|0|0|0|0|0|0|0,
	Protocol version		×	V0.0.0.1
	Equipment type		×	4108
	Media server address ip		×	192.168.10.140
	port		×	6612
	Session ID		×	32415600
	File size		×	655360
	file name		×	/ssyhdd/0/p1/2018-09-04/241-02-104340-104356-05p100.h264
	number plate		√	2014

- Example data

sender	receiver	Need auto answer	Need to answer manually
Center	device	√	×
Command instruction			
Send instructions	@@$$dc0273,1,V103,2014,,180904 104357,A0009,114,3,337200000,22,40,208980000,0.00,3342900,0D0000000100D783,0000000000000000,0.00,0.00,0.00,0,0.00,1108,0|0.00|0|0|0|0|0|0|0,,V0.0.0.1,4108,192.168.10.140,6612,32415600,655360,/ssyhdd/0/p1/2018-09-04/241-02-104340-104356-05p100.h264,2014#		
Instructions	It means that the device 2014 initiated registration with the media server 192.168.10.140:6612		

	“/ssyhdd/0/p1/2018-09-04/241-02-104340-104356-05p100.h264” file .A total of 655360 bytes need to be transmitted.
Response command	
Successful response	40400060080000000100000000000000
Instructions	0x6000Media registration feedback (PC ====> Device) Refer to new media format.
Failed response	
Instructions	

Main instruction flow

3.1 Start video

Sender	Receiver	Channel Type	Command	Example data
Center	Device	Signaling channel	C508 Start video reporting	$$dc0067,370,C508,00007,,180903 170716,45649064,1,0,1,0,192.168.10.140,6602#
Device	Center	Media channel	V102 Media Registration Instructions	@@$$dc0216,1,V102,00007,,180903 170714,A0010,114,3,337788000,22,40,230304000,0.00,2265900,000E00010101 D383,0000000000000000,0.00,0.00,0.00,0,0.00,61,0|0.00|0|0|0|0|0|0|0,,V0.0 .0.1,4108,192.168.10.140,6602,45649064,C508,0,1,123#
Center	Device	Media channel	0x6000 Media registration feedback(PC==>Device)	40400060080000000100000000000000
Device	Center	Media channel	0x6015	40401560000200000100004000000000100000002000000010000004 01f00001 0000000000000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000000000000 0000000000000000b00400020000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000000000000

				000000000000000
Center	Device	Media channel	0x6002 Request I frame (PC==>Device)	40400260000000040400460040000000100000
Device	Center	Signaling channel	V100 Device response C508	$$dc0190,370,V100,00007,,180903 170714,A0010,114,3,337788000,22,40,230304000,0.00,2265900,000E00010101D383,0000000000000000,0.00,0.00,0.00,0,0.00,61,0|0.00|0|0|0|0|0|0|0,,C508,180903 170716,0,1,1,,0#
Device	Center	Media channel	0x6011 I frame (Device ==> PC)	40401160201100004ee6e1220500000000000000016742001495a8582590000000168ce3c800000000106e501fd800000000165b800000cff8025f1088e10fc270e00012edb39dbe3f0017f253369217dbfe4e4e67a1d318c4a52914ae901731d20a02ad596c08fae3d64f3325b20c0c5d47be0cb8558ab573c635c3647bd2643f168bf203fc428d333047de8388bb0895c01bea048fd34ffcaa956dea2d58fe7b13f9b913a8881a5c32bc4442da259bfec442220df6e2afbc113dda995809bdf9e32ede388bc4425fe12b36cbee5cf88e22c1ede2306093263f83a5eaba9f2ebafbc208cc1f8cbca9e9fff1f8f2a69fffef171f87c32bedffef173ef578ac7e207d3d34fff7851643f1034fa7ffbc300c911c4610fe2bde026895dab57f7421d811ed0ff71fffc9e4d266c9db343badcbdc65c5ca23de06d124ef69c87f1fca721dc3fc231ca4d8707d6063c5e39d03c8e5cc30f13e07940842ac95638226bff70dfda5ec06b15062eea1323b493560f39aacd565bb3ead6f668627ca1b730db3d1c24144f0011fd3575b5849ffc4305c03857af8354b948b904301413ae0d52fe6d548b2ab0d9223c8ec89d67504e89a54d6eb4d65e5e3b10e7f7fbde0591316c450deb2fdd069920a9949cfb195c063d2ce13b6efee4e5c3774a825e1a592c0836039e67ef3be0678ec3f53609c58aabbae2bff903f90c7be02b68455f23e43222953229dd6f849f3b82d8c87bc6f5cc73f54c9aebb2c53f0af713fd7e19d144a63d9bd99143de4b2aa195eb37292560bd72f4f5badd75b97758506a8103115c0c0b00b8ffd2a228808091e98173c030f5080397817fb80c922458dfe6e6f22704e3a594e90994972abed02c7fe2754226e41d706d891905f4fc2e2e5d3265e42512c354991dcbcbd744d6e969ebac43c76141abef7fbde04045c0030efc1dbf513ebf591e9e9dcbffe1fe13dec818a69990f69f8a28d672f5d6c655976d3b976d72f7d74f4eebac28a0585d403b277bfdeff6f6ee57159710e7fda1f84e12392cdecf6eb52e34992e3e8099797939797ae89744d3d75b9715acfd63346f4ee9c28a84701ee699f0aee4fc3e3973089a8405e5eb0c0a609c8cb4a4b1a59788256a426fa25cbba26946501545695c760a473aff5afdbb4574caee11cabfc8fbfcf09e09588ab5a6b949973282764974a4df2bcaad2eb72f58515585d4012c01a1baf97f5a7d7e8f24211514ffacdf6e3c9028a7737ffeb6a3aa11c0bfbfdf3433435ab9d6c25d4bb4525b2e6d6e92ef76eef48a49d4b264e5775b97ac56b8ec3a525f4edff841c092dc9f4ab6b1c9d4ddb6b6beaeb49c5405fb7b474dad38858cbe6addff1bc09dfdf97bbb34b710382bef015de69fbe1f71fb970b76e5ad454776b683994f32f36145935132aaa73f29214685e5715b25c9b6556df2bc9d621eb15ae3b067efe8bffc3f8fb09d18cd433eedbeaf99176268127e760bff0294348b9f848f8f1d3675f07ddc893a5bdd10211c46906f52fe3ae8efe5c958f3c3813343597f1f8e264f9ef9e7973ae8948aaa551e40b2691eb103dba455159565ef949bd32ee5c3aa62db1d82840e34b5f8bc5fffb29f941d8cc9710fef72e16f83164c063f7e76005bb2178432e4f9da8624c3c7a2e

				1170faadf6565fb28e76314aac7f33e8bd6025b48e750e71f4cffeff5a45d344d621e5e5775d6ad65791ebad358ab5c2d8127ab9bfdeff182aa2921fca05b3588a16330817d121cc57026fc1e56632f32e14df4c7fd8ffedf7ffbfaafbf77eeed4a9d3f8ec11bcfce10cec0514c42fde87e25c04fb7739a10d27feb5f97077609a2597ad8cbcae9be4d22f2f2f2bcba6b10e2cb908708696b3fad397ac47e5f2f5f7fb3595cbb61a0df52c97b5e99023de976a5498aec8af0f756bf12a163dd12a1830e9d350ffe1c6e8727b7d8f3b5eff448f468454323edffefc20afdfeff9148ca722c453b0573f2bb4b10e179394997a7971952f5bc0c2dc21f61c9b30c536de5b4493687d4c3bb641c6bd7e1c0361f0b1f316271cf510767ffd75dfe
Device	Center	Media channel	0x6012 P Frame (Device ==> PC)	...
Device	Center	Media channel	0x6011 I frame (Device ==> PC)	...
Device	Center	Media channel	0x6013 A frame (Device ==> PC)	40401360d80000004ee6e1220500000000016400578cbffbdffbf34c74e1fdeece4fef786b7f82bf21f3c2c326fa634dc6d7e4e65f02ff386b63b8b81c0fd3c9e55d8bc2f1179d0bae7fe07eeb4fb2c8df16a33ddf57046ef0effefe2f82df79f3d009b13efbff0dee98933df6ef79ef3078173cfb7e090f9ba75a32175ce473bbff5f877f07095aeb9f8918f8169f75e9d7fccc7bdf2393af77fff97f9fcbce5ff79c72f7d8ef63c7d8dc7f4cf817bbeb9f09d9f7172c02c77e6c113816f993cdfbc75ef4bd8bee5c732d38c2b893ad8bcea28bfcbf163afcac47c900000000
Center	Device	Media channel	0x6403 Receive report (PC==>Device)	4040036418000000000000004ee6e1220500000000000000d688fb2205000000
Device	Center	Media channel	0x6012 P frame (Device ==> PC)	...
Device	Center	Media channel	0x6011 I frame (Device ==> PC)	...
Center	Device	Media channel	0x6403 Receive report (PC==>Device)	...
Center	Device	Signaling channel	C508 Stop Video Upload	$$dc0050,327,C508,00007,,180904 160729,45452456,0,0,1,0,,0#
Device	Center	Signaling channel	V100 Device response C508	$$dc0191,327,V100,00007,,180904 160726,A0011,114,3,337433999,22,40,218759999,0.00,451100,000E00010101D383,0000000000000000,0.00,0.00,0.00,0,0.00,2825,0|0.00|0|0|0|0|0|0|0,,C508,180904 160729,0,1,0,,0#

3.2 Alarm file upload

Sender	Receiver	Channel	Command	Example Data

		Type		
Device	Center	Signaling channel	V232 Alarm file upload	$$dc0299,10,V232,2014,,180904 104356,A0009,114,3,337200000,22,40,208980000,0.00,3342900,0F0000000100D783,0000000000000000,0.00,0.00,0.00,0,0.00,1108,0|0.00|0|0|0|0|0|0|0,,180904 104356,A436667CF6557C0B,0,,0,,2,/ssyhdd/0/p1/2018-09-04/241-02-104340-104356-05p100.h264,655360,2,2018-09-04 104337,19,1,0,3,0,0,#
Center	Device	Signaling channel	C100 Center response V232	$$dc0066,10,C100,2014,,180904 104400,V232,180904 104356,0,A436667CF6557C0B#
Center	Device	Signaling channel	C702 Download by file	$$dc0119,2,C702,2014,,180904 104400,32415600,3,0,0,192.168.10.140,6612,/ssyhdd/0/p1/2018-09-04/241-02-104340-104356-05p100.h264#
Device	Center	Signaling channel	V100 Device response C702	$$dc0187,2,V100,2014,,180904 104357,A0009,114,3,337200000,22,40,208980000,0.00,3342900,0D0000000100D783,0000000000000000,0.00,0.00,0.00,0,0.00,1108,0|0.00|0|0|0|0|0|0|0,,C702,180904 104400,0,1,0,#
Device	Center	Media channel	V103 Download file block	@@$$dc0273,1,V103,2014,,180904 104357,A0009,114,3,337200000,22,40,208980000,0.00,3342900,0D0000000100D783,0000000000000000,0.00,0.00,0.00,0,0.00,1108,0|0.00|0|0|0|0|0|0|0,,V0.0.0.1,4108,192.168.10.140,6612,32415600,655360,/ssyhdd/0/p1/2018-09-04/241-02-104340-104356-05p100.h264,2014#
Device	Center	Media channel	0x6102 File download data (PC<==>Device)	40400261081000000000000010000000000000000000000000000000000000000000000000000000000000000000000000041209040a2b281209040a2b280101000001000001100200000000000401f000000000000000000000029600005353595f4456525f313058580000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000029905002810000401f000cdbafbe0897ca009897ca0000000000fdfcfbfa50a60100fdfcfbfaf0a00200fdfcfbfa709f0300fdfcfbfa509b0400fdfcfbfad0970500fdfcfbfa50a00600fdfcfbfa509a0700fdfcfbfaf0990800fdfcfbfa109109001400000000000000000095ca000100000000000000

				00000000001098ca0000000000489bca00907a2a00ffffffffffffffff0000000000000 000c8013400c8013400e497ca00e497ca00900000002000000089aca000a0000 005f4954454d4c4953545f0000000000000000000000980000002093ca00189cca00 5f4556454e544c4953545f003e0000000000000078000000b845ca0040a5ca0018 00000000000000b897ca000100000000000000000000002097ca0000000000789 9ca00907a2a00ffffffffffffffff0000000000000000c8013400c80134007c98ca007c9 8ca00580000020000000b0a5ca000c0000005f45444954424f585345545f003e0 000c803000028000005890ca00ed0e000020000000000000000cdbafbef098ca0 04899ca000000000000000000580000009094ca000890ca005f434f4e54454e545 f000000000000000000000038000000f099ca0060c531405f4954454d5f0000180 0000020000000e898ca00090000005f434f4e54454e545f0041646472440048040 00030000000c894ca001f000000434f4e5f536572766572416464724444c31000 00000000000000000000000000000000f0050100709fcb0060c5314018000000 00000000b897ca000100000000000000000000008097ca005098ca00609aca009 07a2a00ffffffffffffffff0000000000000000c8013400c8013400a499ca00a499ca005 800000028000000c098ca00ee0e000020000000000000000cdbafbe2899ca0030 9aca000000000000000000380000009094ca00e898ca005f4556454e545f001800 0000200000002099ca00090000005f434f4e54454e545f00416464724400b80000 00300000004099ca001f000000434f4e5f536572766572416464724444c320000 00000000000000000000000000000000008050100709fcb0060c53140180000000 0000000b897ca000100000000000000000000001099ca007899ca000000000090 7a2a00ffffffffffffffff0000000000000000c8013400c80134008c9aca008c9aca0058 00000028000000c899ca00
Device	Center	Media channel	0x6102	...
Center	Device	Media channel	0x6000 Media registration feedback (PC==>Device)	40400060080000000100000000000000
Device	Center	Media channel	0x6102	...
Device	Center	Media channel	0x6102	40400261080000000000000000000000