

arcmsr\_spec.txt

\*\*\*\*\*  
\*\* ARECA FIRMWARE SPEC  
\*\*\*\*\*

\*\* Usage of IOP331 adapter  
\*\* (All In/Out is in IOP331's view)  
\*\* 1. Message 0 --> InitThread message and return code  
\*\* 2. Doorbell is used for RS-232 emulation  
\*\*     inDoorBell :     bit0 -- data in ready  
\*\*                     (DRIVER DATA WRITE OK)  
\*\*                     bit1 -- data out has been read  
\*\*                     (DRIVER DATA READ OK)  
\*\*     outDooeBell:     bit0 -- data out ready  
\*\*                     (IOP331 DATA WRITE OK)  
\*\*                     bit1 -- data in has been read  
\*\*                     (IOP331 DATA READ OK)  
\*\* 3. Index Memory Usage  
\*\* offset 0xf00 : for RS232 out (request buffer)  
\*\* offset 0xe00 : for RS232 in (scratch buffer)  
\*\* offset 0xa00 : for inbound message code message\_rwbuffer  
\*\*                     (driver send to IOP331)  
\*\* offset 0xa00 : for outbound message code message\_rwbuffer  
\*\*                     (IOP331 send to driver)  
\*\* 4. RS-232 emulation  
\*\*     Currently 128 byte buffer is used  
\*\*         1st uint32\_t : Data length (1--124)  
\*\*         Byte 4--127 : Max 124 bytes of data  
\*\* 5. PostQ  
\*\* All SCSI Command must be sent through postQ:  
\*\* (inbound queue port)     Request frame must be 32 bytes aligned  
\*\* #bit27--bit31 => flag for post ccb  
\*\* #bit0--bit26 => real address (bit27--bit31) of post arcmr\_cdb  
\*\*     bit31 :  
\*\*         0 : 256 bytes frame  
\*\*         1 : 512 bytes frame  
\*\*     bit30 :  
\*\*         0 : normal request  
\*\*         1 : BIOS request  
\*\*     bit29 : reserved  
\*\*     bit28 : reserved  
\*\*     bit27 : reserved  
\*\* -----  
\*\* (outbound queue port)     Request reply  
\*\* #bit27--bit31  
\*\*     => flag for reply  
\*\* #bit0--bit26  
\*\*     => real address (bit27--bit31) of reply arcmr\_cdb  
\*\*     bit31 : must be 0 (for this type of reply)  
\*\*     bit30 : reserved for BIOS handshake  
\*\*     bit29 : reserved  
\*\*     bit28 :  
\*\*         0 : no error, ignore AdapStatus/DevStatus/SenseData  
\*\*         1 : Error, error code in AdapStatus/DevStatus/SenseData  
\*\*     bit27 : reserved  
\*\* 6. BIOS request  
\*\* All BIOS request is the same with request from PostQ  
\*\* Except :

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**          Request frame is sent from configuration space
**          offset: 0x78 : Request Frame (bit30 == 1)
**          offset: 0x18 : writeonly to generate
**                               IRQ to IOP331
**          Completion of request:
**                (bit30 == 0, bit28==err flag)
**          7. Definition of SGL entry (structure)
**          8. Message1 Out - Diag Status Code (????)
**          9. Message0 message code :
**                0x00 : NOP
**                0x01 : Get Config
**                ->offset 0xa00 :for outbound message code message_rwbuffers
**                (IOP331 send to driver)
**                Signature                0x87974060(4)
**                Request len              0x00000200(4)
**                numbers of queue        0x00000100(4)
**                SDRAM Size              0x00000100(4)-->256 MB
**                IDE Channels            0x00000008(4)
**                vendor                  40 bytes char
**                model                   8 bytes char
**                FirmVer                 16 bytes char
**                Device Map              16 bytes char
**                FirmwareVersion DWORD <= Added for checking of
**                                         new firmware capability
**                0x02 : Set Config
**                ->offset 0xa00 :for inbound message code message_rwbuffers
**                (driver send to IOP331)
**                Signature                0x87974063(4)
**                UPPER32 of Request Frame (4)-->Driver Only
**                0x03 : Reset (Abort all queued Command)
**                0x04 : Stop Background Activity
**                0x05 : Flush Cache
**                0x06 : Start Background Activity
**                        (re-start if background is halted)
**                0x07 : Check If Host Command Pending
**                        (Novell May Need This Function)
**                0x08 : Set controller time
**                ->offset 0xa00 : for inbound message code message_rwbuffers
**                (driver to IOP331)
**                byte 0 : 0xaa <-- signature
**                byte 1 : 0x55 <-- signature
**                byte 2 : year (04)
**                byte 3 : month (1..12)
**                byte 4 : date (1..31)
**                byte 5 : hour (0..23)
**                byte 6 : minute (0..59)
**                byte 7 : second (0..59)
*****
*****
**          RS-232 Interface for Areca Raid Controller
**          The low level command interface is exclusive with VT100 terminal
**          -----
**          1. Sequence of command execution
**          -----
**          (A) Header : 3 bytes sequence (0x5E, 0x01, 0x61)
**          (B) Command block : variable length of data including length,

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\*\* command code, data and checksum byte

\*\* (C) Return data : variable length of data

\*\*

## \*\* 2. Command block

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\*\* (A) 1st byte : command block length (low byte)

\*\* (B) 2nd byte : command block length (high byte)

\*\* note ..command block length shouldn't > 2040 bytes,

\*\* length excludes these two bytes

\*\* (C) 3rd byte : command code

\*\* (D) 4th and following bytes : variable length data bytes

\*\* depends on command code

\*\* (E) last byte : checksum byte (sum of 1st byte until last data byte)

\*\*

## \*\* 3. Command code and associated data

\*\*

\*\* The following are command code defined in raid controller Command

\*\* code 0x10--0x1? are used for system level management,

\*\* no password checking is needed and should be implemented in separate

\*\* well controlled utility and not for end user access.

\*\* Command code 0x20--0x?? always check the password,

\*\* password must be entered to enable these command.

\*\* enum

\*\*

\*\* {

\*\* GUI\_SET\_SERIAL=0x10,

\*\* GUI\_SET\_VENDOR,

\*\* GUI\_SET\_MODEL,

\*\* GUI\_IDENTIFY,

\*\* GUI\_CHECK\_PASSWORD,

\*\* GUI\_LOGOUT,

\*\* GUI\_HTTP,

\*\* GUI\_SET\_ETHERNET\_ADDR,

\*\* GUI\_SET\_LOGO,

\*\* GUI\_POLL\_EVENT,

\*\* GUI\_GET\_EVENT,

\*\* GUI\_GET\_HW\_MONITOR,

\*\* // GUI\_QUICK\_CREATE=0x20, (function removed)

\*\* GUI\_GET\_INFO\_R=0x20,

\*\* GUI\_GET\_INFO\_V,

\*\* GUI\_GET\_INFO\_P,

\*\* GUI\_GET\_INFO\_S,

\*\* GUI\_CLEAR\_EVENT,

\*\* GUI\_MUTE\_BEEPER=0x30,

\*\* GUI\_BEEPER\_SETTING,

\*\* GUI\_SET\_PASSWORD,

\*\* GUI\_HOST\_INTERFACE\_MODE,

\*\* GUI\_REBUILD\_PRIORITY,

\*\* GUI\_MAX\_ATA\_MODE,

\*\* GUI\_RESET\_CONTROLLER,

\*\* GUI\_COM\_PORT\_SETTING,

\*\* GUI\_NO\_OPERATION,

\*\* GUI\_DHCP\_IP,

\*\* GUI\_CREATE\_PASS\_THROUGH=0x40,

\*\* GUI\_MODIFY\_PASS\_THROUGH,

\*\* GUI\_DELETE\_PASS\_THROUGH,

\*\* GUI\_IDENTIFY\_DEVICE,

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**      GUI_CREATE_RAIDSET=0x50,
**      GUI_DELETE_RAIDSET,
**      GUI_EXPAND_RAIDSET,
**      GUI_ACTIVATE_RAIDSET,
**      GUI_CREATE_HOT_SPARE,
**      GUI_DELETE_HOT_SPARE,
**      GUI_CREATE_VOLUME=0x60,
**      GUI_MODIFY_VOLUME,
**      GUI_DELETE_VOLUME,
**      GUI_START_CHECK_VOLUME,
**      GUI_STOP_CHECK_VOLUME
**  };
**  Command description :
**      GUI_SET_SERIAL : Set the controller serial#
**          byte 0,1      : length
**          byte 2        : command code 0x10
**          byte 3        : password length (should be 0x0f)
**          byte 4-0x13   : should be "ArEcATecHnoLogY"
**          byte 0x14--0x23 : Serial number string (must be 16 bytes)
**      GUI_SET_VENDOR : Set vendor string for the controller
**          byte 0,1      : length
**          byte 2        : command code 0x11
**          byte 3        : password length (should be 0x08)
**          byte 4-0x13   : should be "ArEcAvAr"
**          byte 0x14--0x3B : vendor string (must be 40 bytes)
**      GUI_SET_MODEL : Set the model name of the controller
**          byte 0,1      : length
**          byte 2        : command code 0x12
**          byte 3        : password length (should be 0x08)
**          byte 4-0x13   : should be "ArEcAvAr"
**          byte 0x14--0x1B : model string (must be 8 bytes)
**      GUI_IDENTIFY : Identify device
**          byte 0,1      : length
**          byte 2        : command code 0x13
**                      return "Areca RAID Subsystem "
**      GUI_CHECK_PASSWORD : Verify password
**          byte 0,1      : length
**          byte 2        : command code 0x14
**          byte 3        : password length
**          byte 4-0x??   : user password to be checked
**      GUI_LOGOUT : Logout GUI (force password checking on next command)
**          byte 0,1      : length
**          byte 2        : command code 0x15
**      GUI_HTTP : HTTP interface (reserved for Http proxy service) (0x16)
**
**      GUI_SET_ETHERNET_ADDR : Set the ethernet MAC address
**          byte 0,1      : length
**          byte 2        : command code 0x17
**          byte 3        : password length (should be 0x08)
**          byte 4-0x13   : should be "ArEcAvAr"
**          byte 0x14--0x19 : Ethernet MAC address (must be 6 bytes)
**      GUI_SET_LOGO : Set logo in HTTP
**          byte 0,1      : length
**          byte 2        : command code 0x18
**          byte 3        : Page# (0/1/2/3) (0xff --> clear OEM logo)
**          byte 4/5/6/7 : 0x55/0xaa/0xa5/0x5a

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**          byte 8          : TITLE.JPG data (each page must be 2000 bytes)
**                               note page0 1st 2 byte must be
**                               actual length of the JPG file
** GUI_POLL_EVENT : Poll If Event Log Changed
**     byte 0,1          : length
**     byte 2            : command code 0x19
** GUI_GET_EVENT : Read Event
**     byte 0,1          : length
**     byte 2            : command code 0x1a
**     byte 3            : Event Page (0:1st page/1/2/3:last page)
** GUI_GET_HW_MONITOR : Get HW monitor data
**     byte 0,1          : length
**     byte 2            : command code 0x1b
**     byte 3            : # of FANs(example 2)
**     byte 4            : # of Voltage sensor(example 3)
**     byte 5            : # of temperature sensor(example 2)
**     byte 6            : # of power
**     byte 7/8          : Fan#0 (RPM)
**     byte 9/10         : Fan#1
**     byte 11/12        : Voltage#0 original value in *1000
**     byte 13/14        : Voltage#0 value
**     byte 15/16        : Voltage#1 org
**     byte 17/18        : Voltage#1
**     byte 19/20        : Voltage#2 org
**     byte 21/22        : Voltage#2
**     byte 23           : Temp#0
**     byte 24           : Temp#1
**     byte 25           : Power indicator (bit0 : power#0,
**                               bit1 : power#1)
**     byte 26           : UPS indicator
** GUI_QUICK_CREATE : Quick create raid/volume set
**     byte 0,1          : length
**     byte 2            : command code 0x20
**     byte 3/4/5/6      : raw capacity
**     byte 7            : raid level
**     byte 8            : stripe size
**     byte 9            : spare
**     byte 10/11/12/13: device mask (the devices to create raid/volume)
**     This function is removed, application like
**     to implement quick create function
** need to use GUI_CREATE_RAIDSET and GUI_CREATE_VOLUMESET function.
** GUI_GET_INFO_R : Get Raid Set Information
**     byte 0,1          : length
**     byte 2            : command code 0x20
**     byte 3            : raidset#
** typedef struct sGUI_RAIDSET
** {
**     BYTE grsRaidSetName[16];
**     DWORD grsCapacity;
**     DWORD grsCapacityX;
**     DWORD grsFailMask;
**     BYTE grsDevArray[32];
**     BYTE grsMemberDevices;
**     BYTE grsNewMemberDevices;
**     BYTE grsRaidState;
**     BYTE grsVolumes;

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**          BYTE grsVolumeList[16];
**          BYTE grsRes1;
**          BYTE grsRes2;
**          BYTE grsRes3;
**          BYTE grsFreeSegments;
**          DWORD grsRawStripes[8];
**          DWORD grsRes4;
**          DWORD grsRes5; //      Total to 128 bytes
**          DWORD grsRes6; //      Total to 128 bytes
**      } sGUI_RAIDSET, *pGUI_RAIDSET;
**  GUI_GET_INFO_V : Get Volume Set Information
**      byte 0,1      : length
**      byte 2      : command code 0x21
**      byte 3      : volumeset#
**  typedef struct sGUI_VOLUMESET
**  {
**      BYTE gvsVolumeName[16]; //      16
**      DWORD gvsCapacity;
**      DWORD gvsCapacityX;
**      DWORD gvsFailMask;
**      DWORD gvsStripeSize;
**      DWORD gvsNewFailMask;
**      DWORD gvsNewStripeSize;
**      DWORD gvsVolumeStatus;
**      DWORD gvsProgress; //      32
**      sSCSI_ATTR gvsScsi;
**      BYTE gvsMemberDisks;
**      BYTE gvsRaidLevel; //      8
**      BYTE gvsNewMemberDisks;
**      BYTE gvsNewRaidLevel;
**      BYTE gvsRaidSetNumber;
**      BYTE gvsRes0; //      4
**      BYTE gvsRes1[4]; //      64 bytes
**  } sGUI_VOLUMESET, *pGUI_VOLUMESET;
**  GUI_GET_INFO_P : Get Physical Drive Information
**      byte 0,1      : length
**      byte 2      : command code 0x22
**      byte 3      : drive # (from 0 to max-channels - 1)
**  typedef struct sGUI_PHY_DRV
**  {
**      BYTE gpdModelName[40];
**      BYTE gpdSerialNumber[20];
**      BYTE gpdFirmRev[8];
**      DWORD gpdCapacity;
**      DWORD gpdCapacityX; //      Reserved for expansion
**      BYTE gpdDeviceState;
**      BYTE gpdPioMode;
**      BYTE gpdCurrentUdmaMode;
**      BYTE gpdUdmaMode;
**      BYTE gpdDriveSelect;
**      BYTE gpdRaidNumber; //      0xff if not belongs to a raid set
**      sSCSI_ATTR gpdScsi;
**      BYTE gpdReserved[40]; //      Total to 128 bytes
**  } sGUI_PHY_DRV, *pGUI_PHY_DRV;
**  GUI_GET_INFO_S : Get System Information
**      byte 0,1      : length

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**          byte 2          : command code 0x23
**
** typedef struct sCOM_ATTR
** {
**     BYTE comBaudRate;
**     BYTE comDataBits;
**     BYTE comStopBits;
**     BYTE comParity;
**     BYTE comFlowControl;
** } sCOM_ATTR, *pCOM_ATTR;
** typedef struct sSYSTEM_INFO
** {
**     BYTE gsiVendorName[40];
**     BYTE gsiSerialNumber[16];
**     BYTE gsiFirmVersion[16];
**     BYTE gsiBootVersion[16];
**     BYTE gsiMbVersion[16];
**     BYTE gsiModelName[8];
**     BYTE gsiLocalIp[4];
**     BYTE gsiCurrentIp[4];
**     DWORD gsiTimeTick;
**     DWORD gsiCpuSpeed;
**     DWORD gsiICache;
**     DWORD gsiDCache;
**     DWORD gsiScache;
**     DWORD gsiMemorySize;
**     DWORD gsiMemorySpeed;
**     DWORD gsiEvents;
**     BYTE gsiMacAddress[6];
**     BYTE gsiDhcp;
**     BYTE gsiBeeper;
**     BYTE gsiChannelUsage;
**     BYTE gsiMaxAtaMode;
**     BYTE gsiSdramEcc; //      1:if ECC enabled
**     BYTE gsiRebuildPriority;
**     sCOM_ATTR gsiComA; //      5 bytes
**     sCOM_ATTR gsiComB; //      5 bytes
**     BYTE gsiIdeChannels;
**     BYTE gsiScsiHostChannels;
**     BYTE gsiIdeHostChannels;
**     BYTE gsiMaxVolumeSet;
**     BYTE gsiMaxRaidSet;
**     BYTE gsiEtherPort; //      1:if ether net port supported
**     BYTE gsiRaid6Engine; //      1:Raid6 engine supported
**     BYTE gsiRes[75];
** } sSYSTEM_INFO, *pSYSTEM_INFO;
** GUI_CLEAR_EVENT : Clear System Event
**     byte 0,1          : length
**     byte 2          : command code 0x24
** GUI_MUTE_BEEPER : Mute current beeper
**     byte 0,1          : length
**     byte 2          : command code 0x30
** GUI_BEEPER_SETTING : Disable beeper
**     byte 0,1          : length
**     byte 2          : command code 0x31
**     byte 3          : 0->disable, 1->enable
** GUI_SET_PASSWORD : Change password

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**      byte 0,1      : length
**      byte 2      : command code 0x32
**      byte 3      : pass word length ( must <= 15 )
**      byte 4      : password (must be alpha-numerical)
** GUI_HOST_INTERFACE_MODE : Set host interface mode
**      byte 0,1      : length
**      byte 2      : command code 0x33
**      byte 3      : 0->Independent, 1->cluster
** GUI_REBUILD_PRIORITY : Set rebuild priority
**      byte 0,1      : length
**      byte 2      : command code 0x34
**      byte 3      : 0/1/2/3 (low->high)
** GUI_MAX_ATA_MODE : Set maximum ATA mode to be used
**      byte 0,1      : length
**      byte 2      : command code 0x35
**      byte 3      : 0/1/2/3 (133/100/66/33)
** GUI_RESET_CONTROLLER : Reset Controller
**      byte 0,1      : length
**      byte 2      : command code 0x36
**                               *Response with VT100 screen (discard it)
** GUI_COM_PORT_SETTING : COM port setting
**      byte 0,1      : length
**      byte 2      : command code 0x37
**      byte 3      : 0->COMA (term port),
**                  : 1->COMB (debug port)
**      byte 4      : 0/1/2/3/4/5/6/7
**                  (1200/2400/4800/9600/19200/38400/57600/115200)
**      byte 5      : data bit
**                  (0:7 bit, 1:8 bit : must be 8 bit)
**      byte 6      : stop bit (0:1, 1:2 stop bits)
**      byte 7      : parity (0:none, 1:off, 2:even)
**      byte 8      : flow control
**                  (0:none, 1:xon/xoff, 2:hardware => must use none)
** GUI_NO_OPERATION : No operation
**      byte 0,1      : length
**      byte 2      : command code 0x38
** GUI_DHCP_IP : Set DHCP option and local IP address
**      byte 0,1      : length
**      byte 2      : command code 0x39
**      byte 3      : 0:dhcp disabled, 1:dhcp enabled
**      byte 4/5/6/7 : IP address
** GUI_CREATE_PASS_THROUGH : Create pass through disk
**      byte 0,1      : length
**      byte 2      : command code 0x40
**      byte 3      : device #
**      byte 4      : scsi channel (0/1)
**      byte 5      : scsi id (0-->15)
**      byte 6      : scsi lun (0-->7)
**      byte 7      : tagged queue (1 : enabled)
**      byte 8      : cache mode (1 : enabled)
**      byte 9      : max speed (0/1/2/3/4,
**                  async/20/40/80/160 for scsi)
**                  (0/1/2/3/4, 33/66/100/133/150 for ide )
** GUI_MODIFY_PASS_THROUGH : Modify pass through disk
**      byte 0,1      : length
**      byte 2      : command code 0x41

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**          byte 3          : device #
**          byte 4          : scsi channel (0/1)
**          byte 5          : scsi id (0-->15)
**          byte 6          : scsi lun (0-->7)
**          byte 7          : tagged queue (1 : enabled)
**          byte 8          : cache mode (1 : enabled)
**          byte 9          : max speed (0/1/2/3/4,
**                          async/20/40/80/160 for scsi)
**                          (0/1/2/3/4, 33/66/100/133/150 for ide )
** GUI_DELETE_PASS_THROUGH : Delete pass through disk
**          byte 0,1        : length
**          byte 2          : command code 0x42
**          byte 3          : device# to be deleted
** GUI_IDENTIFY_DEVICE : Identify Device
**          byte 0,1        : length
**          byte 2          : command code 0x43
**          byte 3          : Flash Method
**                          (0:flash selected, 1:flash not selected)
**          byte 4/5/6/7    : IDE device mask to be flashed
**                          note .... no response data available
** GUI_CREATE_RAIDSET : Create Raid Set
**          byte 0,1        : length
**          byte 2          : command code 0x50
**          byte 3/4/5/6    : device mask
**          byte 7-22       : raidset name (if byte 7 == 0:use default)
** GUI_DELETE_RAIDSET : Delete Raid Set
**          byte 0,1        : length
**          byte 2          : command code 0x51
**          byte 3          : raidset#
** GUI_EXPAND_RAIDSET : Expand Raid Set
**          byte 0,1        : length
**          byte 2          : command code 0x52
**          byte 3          : raidset#
**          byte 4/5/6/7    : device mask for expansion
**          byte 8/9/10     : (8:0 no change, 1 change, 0xff:terminate,
**                          9:new raid level,
**                          10:new stripe size
**                          0/1/2/3/4/5->4/8/16/32/64/128K )
**          byte 11/12/13   : repeat for each volume in the raidset
** GUI_ACTIVATE_RAIDSET : Activate incomplete raid set
**          byte 0,1        : length
**          byte 2          : command code 0x53
**          byte 3          : raidset#
** GUI_CREATE_HOT_SPARE : Create hot spare disk
**          byte 0,1        : length
**          byte 2          : command code 0x54
**          byte 3/4/5/6    : device mask for hot spare creation
** GUI_DELETE_HOT_SPARE : Delete hot spare disk
**          byte 0,1        : length
**          byte 2          : command code 0x55
**          byte 3/4/5/6    : device mask for hot spare deletion
** GUI_CREATE_VOLUME : Create volume set
**          byte 0,1        : length
**          byte 2          : command code 0x60
**          byte 3          : raidset#
**          byte 4-19       : volume set name

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**                                     arcmsr_spec.txt
**                                     (if byte4 == 0, use default)
**         byte 20-27                 : volume capacity (blocks)
**         byte 28                     : raid level
**         byte 29                     : stripe size
**                                     (0/1/2/3/4/5->4/8/16/32/64/128K)
**         byte 30                     : channel
**         byte 31                     : ID
**         byte 32                     : LUN
**         byte 33                     : 1 enable tag
**         byte 34                     : 1 enable cache
**         byte 35                     : speed
**         (0/1/2/3/4->async/20/40/80/160 for scsi)
**         (0/1/2/3/4->33/66/100/133/150 for IDE )
**         byte 36                     : 1 to select quick init
**
** GUI_MODIFY_VOLUME : Modify volume Set
**         byte 0,1                   : length
**         byte 2                     : command code 0x61
**         byte 3                     : volumeset#
**         byte 4-19                  : new volume set name
**         (if byte4 == 0, not change)
**         byte 20-27                 : new volume capacity (reserved)
**         byte 28                     : new raid level
**         byte 29                     : new stripe size
**                                     (0/1/2/3/4/5->4/8/16/32/64/128K)
**         byte 30                     : new channel
**         byte 31                     : new ID
**         byte 32                     : new LUN
**         byte 33                     : 1 enable tag
**         byte 34                     : 1 enable cache
**         byte 35                     : speed
**         (0/1/2/3/4->async/20/40/80/160 for scsi)
**         (0/1/2/3/4->33/66/100/133/150 for IDE )
** GUI_DELETE_VOLUME : Delete volume set
**         byte 0,1                   : length
**         byte 2                     : command code 0x62
**         byte 3                     : volumeset#
** GUI_START_CHECK_VOLUME : Start volume consistency check
**         byte 0,1                   : length
**         byte 2                     : command code 0x63
**         byte 3                     : volumeset#
** GUI_STOP_CHECK_VOLUME : Stop volume consistency check
**         byte 0,1                   : length
**         byte 2                     : command code 0x64
** -----
** 4. Returned data
** -----
** (A) Header           : 3 bytes sequence (0x5E, 0x01, 0x61)
** (B) Length           : 2 bytes
**                       (low byte 1st, excludes length and checksum byte)
** (C) status or data   :
**     <1> If length == 1 ==> 1 byte status code
**     #define GUI_OK                0x41
**     #define GUI_RAIDSET_NOT_NORMAL 0x42
**     #define GUI_VOLUMESET_NOT_NORMAL 0x43
**     #define GUI_NO_RAIDSET         0x44

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**          #define GUI_NO_VOLUMESET          0x45
**          #define GUI_NO_PHYSICAL_DRIVE     0x46
**          #define GUI_PARAMETER_ERROR       0x47
**          #define GUI_UNSUPPORTED_COMMAND   0x48
**          #define GUI_DISK_CONFIG_CHANGED   0x49
**          #define GUI_INVALID_PASSWORD      0x4a
**          #define GUI_NO_DISK_SPACE         0x4b
**          #define GUI_CHECKSUM_ERROR        0x4c
**          #define GUI_PASSWORD_REQUIRED     0x4d
**          <2> If length > 1 ==>
**          data block returned from controller
**          and the contents depends on the command code
**          (E) Checksum          : checksum of length and status or data byte
*****

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