TERA
Command Manual

Ver 1.04
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Astrodesign, Inc.

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Set Enhance Level	0x20 0x43	Preset Table
Set Sampling Phase	0x20 0x45	Preset Table
Set Input Video Level	0x20 0x46	Preset Table
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Set Input Brightness	0x20 0x48	Preset Table
Set Input Contrast	0x20 0x49	Preset Table
Set Input Color	0x20 0x4A	Preset Table
Set Flicker Control	0x20 0x4B	Preset Table
Set Back Porch Delay	0x20 0x4C	Preset Table
Set Input Color Space	0x20 0x4D	Preset Table
Set Preset Data	0x20 0x4E	Preset Table
Set Preset Table No.	0x20 0x50	Input Environment Table
Set Input Signal Search Mode	0x20 0x51	Input Environment Table
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Set Input Gamma Correction Mode	0x20 0x53	Input Environment Table
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Set Lock Mode	0x20 0x63	Output Environment Table
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Set Frame Display	0x20 0x80	Mask Table
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Set Window Input Start and End Coordinates	0x20 0x86	Mask Table
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Set Window Display Start and End Coordinates	0x20 0x88	Mask Table
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Set Base Display ON/OFF	0x20 0x8A	Mask Table
Set Base Color	0x20 0x8B	Mask Table
Set Window Zoom Data	0x20 0x8C	Mask Table
Set Key Composition ON/OFF	0x20 0x8D	Mask Table
Set Key Composition Data	0x20 0x8E	Mask Table
Set Mask Table Name	0x20 0x8F	Mask Table
Set Display Rate	0x20 0x90	Other
Set LUT Data	0x20 0x91	Other
Set Auto Display	0x20 0x92	Other
Set Multi-Screen Configuration	0x20 0xB0	Other
Set Multi-Screen Address	0x20 0xB1	Other
Set Virtual Coordinate Mode	0x20 0xB2	Other
Set Dot Setting Mode	0x20 0xB3	Other
Save All RAM Data	0x20 0xE0	
Initialize All RAM Data	0x20 0xE1	
Load Flash Data	0x20 0xE2	
Delete Timing Table	0x20 0xE3	
Copy Timing Table	0x20 0xE4	
Swap Input Timing Table	0x20 0xE5	
Initialize Timing Table	0x20 0xE6	
Copy Preset Table	0x20 0xE7	
Initialize Preset Table	0x20 0xE8	
Copy Mask Table	0x20 0xE9	
Initialize Mask Table	0x20 0xEA	

1.2 Acquisition Commands

Name of Command	Command	Related Table
Get Input Timing Table Data Get Search Subject	0x30 0x20 0x30 0x21	Input Timing Table Input Timing Table
Get Output Timing Table	0x30 0x30	Output Timing Table
Get Motion Processing Mode	0x30 0x40	Preset Table
Get Zoom Mode	0x30 0x41	Preset Table
Get TBC Mode	0x30 0x42	Preset Table
Get Enhance Level	0x30 0x43	Preset Table
Get Sampling Phase	0x30 0x45	Preset Table
Get Input Video Level	0x30 0x46	Preset Table
Get Input Hue	0x30 0x47	Preset Table
Get Input Brightness	0x30 0x48	Preset Table
Get Input Contrast	0x30 0x49	Preset Table
Get Input Color	0x30 0x4A	Preset Table
Get Flicker Control	0x30 0x4B	Preset Table
Get Back Porch Delay	0x30 0x4C	Preset Table
Get Input Color Space	0x30 0x4D	Preset Table
Get Preset Data	0x30 0x4E	Preset Table
Get Preset Table No.	0x30 0x50	Input Environment Table
Get Input Signal Search Mode	0x30 0x51	Input Environment Table
Get Fixed Input Timing No.	0x30 0x52	Input Environment Table
Get Input Gamma Correction Mode	0x30 0x53	Input Environment Table
Get Input Gamma Correction Value	0x30 0x54	Input Environment Table
Get Freeze	0x30 0x56	Input Environment Table
Get Sync Loss Mode	0x30 0x57	Input Environment Table
Get Base Sampling Phase	0x30 0x58	Input Environment Table
Get Base Input Video Level	0x30 0x59	Input Environment Table
Get Mask Table No.	0x30 0x60	Output Environment Table
Get Output Timing No.	0x30 0x61	Output Environment Table
Get Scan Convert ON/OFF	0x30 0x62	Output Environment Table
Get Lock Mode	0x30 0x63	Output Environment Table
Get Line Lock Horizontal Phase Adjustment	0x30 0x64	Output Environment Table
Get Line Lock Vertical Phase Adjustment	0x300x65	Output Environment Table
Get Frame Lock Horizontal Phase Adjustment	0x30 0x66	Output Environment Table
Get Frame Lock Vertical Phase Adjustment	0x30 0x67	Output Environment Table
Get Output Video Level	0x30 0x68	Output Environment Table
Get Output Sync Type	0x30 0x69	Output Environment Table
Get Output Sync ON	0x30 0x6A	Output Environment Table
Get Output Sync Level	0x30 0x6B	Output Environment Table
Get Test Pattern	0x30 0x6C	Output Environment Table
Get Output Brightness	0x30 0x6D	Output Environment Table
Get Output Contrast	0x30 0x6E	Output Environment Table
Get Output Color	0x30 0x6F	Output Environment Table
Get Output Gamma Correction Mode	0x30 0x70	Output Environment Table
Get Output Gamma Correction Value	0x30 0x71	Output Environment Table
Get Output Color Space	0x30 0x72	Output Environment Table
Get Display Type	0x30 0x74	Output Environment Table
Get Link Mode	0x30 0x75	Output Environment Table
Get OSD Arbitrary Character Display ON/OFF	0x30 0x77	Output Environment Table
Get OSD Arbitrary Character Data	0x30 0x78	Output Environment Table
Get Output Sync Polarity	0x30 0x79	Output Environment Table

Get Frame Display	0x30 0x80	Mask Table
Get Frame Color	0x30 0x81	Mask Table
Get Window Preference Order	0x30 0x82	Mask Table
Get Display ON/OFF	0x30 0x85	Mask Table
Get Window Input Start and End Coordinates	0x30 0x86	Mask Table
Get Window Output Start and End Coordinates	0x30 0x87	Mask Table
Get Window Display Start and End Coordinates	0x30 0x88	Mask Table
Get Output Display Start and End Coordinates	0x30 0x89	Mask Table
Get Base Display ON/OFF	0x30 0x8A	Mask Table
Get Base Color	0x30 0x8B	Mask Table
Get Window Zoom Data	0x30 0x8C	Mask Table
Get Key Composition ON/OFF	0x30 0x8D	Mask Table
Get Key Composition Data	0x30 0x8E	Mask Table
Get Mask Table Name	0x30 0x8F	Mask Table
Get LUT Data	0x30 0x91	Other
Get Multi-Screen Configuration	0x30 0xB0	Other
Get Multi-Screen Address	0x30 0xB1	Other
Get Virtual Coordinate Mode	0x30 0xB2	Other
Get Dot Setting Mode	0x30 0xB3	Other
Get Model Name and Version	0x30 0xE4	None
Get Current Input Timing No.	0x30 0xF1	None
Get Input Signal Sync Status	0x30 0xF2	None
Get Input Board Count	0x30 0xF3	None

1.3 Screen Effect Commands

Name of Command	Command	Related Table
Set Fade Level	0x40 0x20	None
Set Fade IN/OUT	0x40 0x21	None
Set Arbitrary Level Fade IN/OUT	0x40 0x22	None
Fade IN/OUT Execution Control	0x40 0x23	None
Set Window Wipe	0x40 0x40	None
Set Window Zoom	0x40 0x42	None
Window Wipe Execution Control	0x40 0x43	None
Window Zoom Execution Control	0x40 0x45	None
Set Window Zoom of Arbitrary Coordinates and Size	0x40 0x47	None
Set Window Wipe of Arbitrary Coordinates and Size	0x40 0x48	None
Set Screen Effect Operation Control	0x40 0x4F	None
Get Fade Level	0x50 0x20	None

2 Communication Condition

Transfer Rates	9600/19200/38400 bps
Start Bit	1 bit
Data Length	8 bits
Stop Bit	1 bit
Parity	None

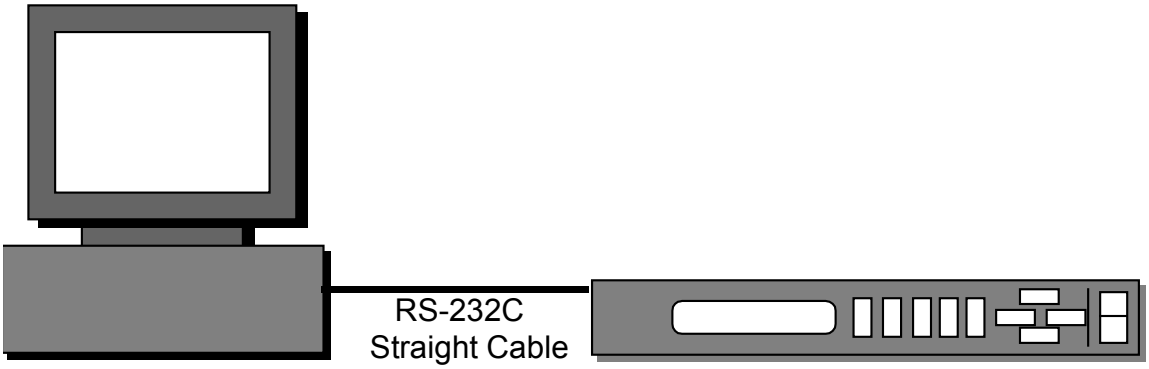
3 List of Flow Control Characters

Code	Hex Code	Content
STX	0x02	Start of Text Transfer
ETX	0x03	End of Text Transfer
ENQ	0x05	Start of Terminal Mode
EOT	0x04	End of Terminal Mode
ACK	0x06	Positive Acknowledgement
NAK	0x15	Negative Acknowledgement
TRDT	0x10	Transmission of Data
ERR	0x11	Transmission of Error Status

4 List of Error Status

Code	Characters	Content
PARM_ERR	“01”	Parameter Error
EXEC_ERR	“02”	Execution Error
CMD_ERR	“04”	Command Unknown Error

5 Transmission Data Format



Connection Diagram

5.1 When Sending a Setting Command

Command sent from the host to TERA

STX	CMD1	CMD2	ETX

or

STX	CMD1	CMD2	PARM	ETX

Value Returned from TERA to the host

ACK

or

NAK

or

STX	ERR	Error Status	ETX

5.2 When Sending an Acquisition Command

Command sent from the host to TERA

STX	CMD1	CMD2	ETX

or

STX	CMD1	CMD2	PARM	ETX

Value Returned from TERA to the host

STX	TRDT	PARM	ETX

or

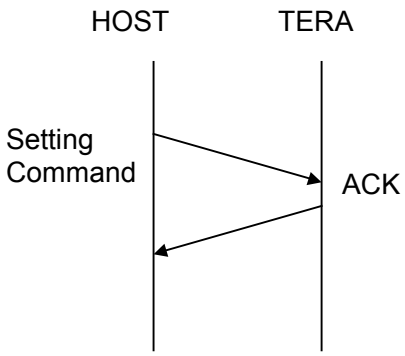
NAK

or

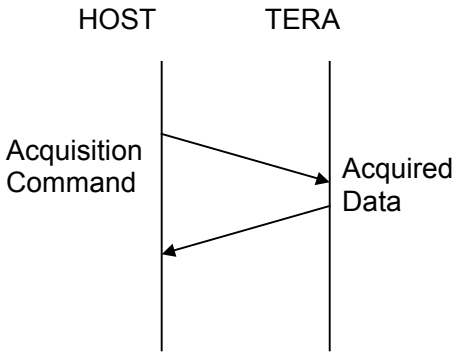
STX	ERR	Error Status	ETX

6 Transmission Protocol

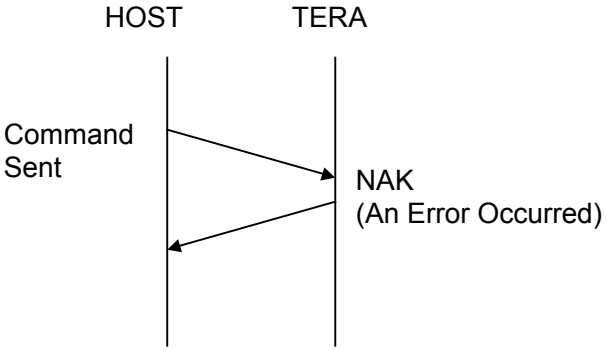
1. Setting



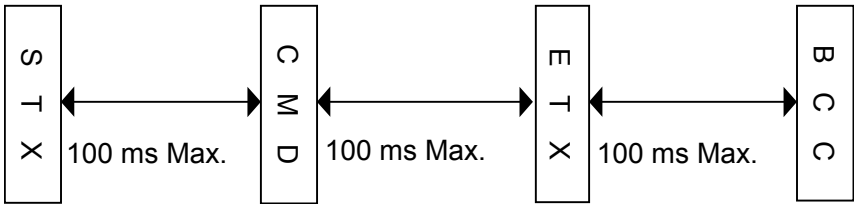
2. Acquisition



3. In Case of an Error



NOTE: In sending a command, the intervals between characters within a command should be 100 ms or less. A command will be invalid if any of its intervals exceeds 100 ms.



7 BCC (Checksum)

BCC is used to check the validity of a command.

When sending a command, take an XOR of bytes from CMD1 to ETX of the command to be sent and add one byte at the end of the command. If the data, when checked by TERA, does not match with the BCC, an NAK (0x15) will be returned by the unit.
In receiving a command, an XOR will be taken of TRDT to ETX of the received command, which can be used to check against the BCC in the received command for the validity of the data.

7.1 BCC Example

When sending "0x61: Set Output Timing Table" to set "Timing No. 01", the command will be configured as follows:

S T X	0x02	
C M D 1	0x20	Subject for BCC Creation
C M D 2	0x61	
P A R M	Output Timing Table Number (2 bytes)	
E T X	0x03	
B C C	Checksum	

1. Take an XOR of CMD1 and CMD2

0x20:	00100000
0x61:	01100001
XOR:	01000001

2. Take an XOR of the first byte of PARM and the result from 1

0x41:	01000001
0x30:	00110000
XOR:	01110001

3. Take an XOR of the second byte of PARM and the result from 2

0x71:	01110001
0x31:	00110010
XOR:	01000011

4. Take an XOR of ETX and the result from 3

0x43:	01000011
0x03:	00000011
XOR:	01000000

BCC thus created → 0x40

8 Descriptions of Commands

8.1 Setting Commands

0x20, 0x20: Set Input Timing Table Data

This command is used to set data in an Input Timing Table.

S T X	0x02
C M D 1	0x20
C M D 2	0x20
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM
Change Specification (57 bytes)

Timing Table No.	3 bytes:	“000 ~ 100” “000”: Current Input Timing Table	
","	1 byte:	0x2C	
Timing Table Name	8 bytes:	8 characters	*1
","	1 byte:	0x2C	
Dot Clock	5 bytes:	“01700 ~ 16200”	*2
","	1 byte:	0x2C	
H Period	4 bytes:	“0200 ~ 3000” dots	*3
","	1 byte:	0x2C	
H Disp	4 bytes:	“0128 ~ 2000” dots	
","	1 byte:	0x2C	
H Sync Width	3 bytes:	“004 ~ 500” dots	
","	1 byte:	0x2C	*3
H Back Porch	4 bytes:	“0000 ~ H Period/2” dots	
","	1 byte:	0x2C	
V Total	4 bytes:	“0200 ~ 2000” lines	
","	1 byte:	0x2C	
V Disp	4 bytes:	“0128 ~ 1320” lines	
","	1 byte:	0x2C	
V Sync Width	2 bytes:	“02 ~ 60” lines	
","	1 byte:	0x2C	
V Back Porch	4 bytes:	“0000 ~ V Total/2” lines	
","	1 byte:	0x2C	
Scan Method	1 byte:	‘0’: Progressive ‘1’: Interlace	

*1	Characters that can be used are: "0x20 ('□') ~ 0x7A ('z')"
*2	Setting of TERA will be: "01700 ~ 16200" corresponding to "17.00 MHz ~ 162.00 MHz" with the dot clock setting range: for interlace 17 MHz ~ 81 MHz for progressive 17 MHz ~ 162 MHz
*3	Conditions for setting timing data H Period ≥ H Disp + H Sync Width + H Back Porch V Total ≥ V Disp + V Sync Width + V Back Porch H Sync + H Back Porch ≥ 96 V Sync + V Back Porch ≥ 12 Values for Hperiod, H Disp, H Sync, and H Back Porch should be set by 2 dots (multiples of 2). If not set by 2 dots, data will be automatically converted to a multiple value of 2 by TERA. For interlace scan, V Disp, V Sync, and V Back Porch should be set by 2 lines (multiples of 2). If not set by 2 lines, data will be automatically changed by TERA.

Note:	"□" indicates an input of a space.

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR
Execution Error	: EXEC_ERR

- Execution Error is returned if the specified timing table has no data set or when "0" is sent upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x20, 0x21: Set Search Subject

This command is used to provide settings for Search Subject.

S T X	0x02
C M D 1	0x20
C M D 2	0x21
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (7~13 bytes)

Input Timing No.	3 bytes : "001 ~ 100"
","	1 byte : 0x2C
Search Subject	1 byte : '0': OFF '1': ON
","	1 byte : 0x2C
Window to Set	1~7 bytes: "1 ~ 4"

Example of "Window to Set"

Window1 : '1' (1 byte)
Window 2 and 3 : "2,3" (3 bytes)

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x20, 0x30: Set Output Timing Table Data

This command is used to set data in an output timing table.

S T X	0x02
C M D 1	0x20
C M D 2	0x30
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (56 bytes)

Timing Table No.	2 bytes:	“00 ~ 20” “00”: Current Output Timing Table	
","	1 byte:	0x2C	
Timing Table Name	8 bytes:	8 characters	*1
","	1 byte:	0x2C	
Dot Clock	5 bytes:	“01700 ~ 16200”	*2
","	1 byte:	0x2C	
H Period	4 bytes:	“0200 ~ 3000” dots	
","	1 byte:	0x2C	
H Disp	4 bytes:	“0128 ~ 2000” dots	
","	1 byte:	0x2C	
H Sync Width	3 bytes:	“004 ~ 500” dots	
","	1 byte:	0x2C	
H Back Porch	4 bytes:	“0000 ~ H Period/2” dots	
","	1 byte:	0x2C	*3
V Total	4 bytes:	“0200 ~ 2000” lines	
","	1 byte:	0x2C	
V Disp	4 bytes:	“0128 ~ 1320” lines	
","	1 byte:	0x2C	
V Sync Width	2 bytes:	“02 ~ 60” lines	
","	1 byte:	0x2C	
V Back Porch	4 bytes:	“0000 ~ V Total/2” lines	
","	1 byte:	0x2C	
Scan Method	1 byte:	‘0’: Progressive ‘1’: Interlace	

*1	Characters that can be used are: "0x20 ('□')~ 0x7A ('z')"
*2	Setting of TERA will be: for analog outputs "01700 ~ 16200" corresponding to "17.00 MHz ~ 162.00 MHz" with the ranges of dot clock setting: for interlace 17 MHz ~ 81 MHz for progressive 17 MHz ~ 162 MHz for TMDS outputs "02500 ~ 16200" corresponding to "25.00 MHz ~ 162.00 MHz" with the ranges of dot clock setting: for interlace 25 MHz ~ 81 MHz for progressive 25 MHz ~ 162 MHz
*3	Conditions for setting timing data H Period ≥ H Disp + H Sync Width + H Back Porch V Total ≥ V Disp + V Sync Width + V Back Porch H Sync + H Back Porch ≥ 24 V Sync + V Back Porch ≥ 12 Values for Hperiod, H Disp, H Sync, and H Back Porch should be set by 2 dots (multiples of 2). If not set by 2 dots, data will be automatically converted to a multiple value of 2 by TERA. For interlace scan, V Disp, V Sync, and V Back Porch should be set by 2 lines (multiples of 2). If not set by 2 lines, data will be automatically changed by TERA.

Note:	"□" indicates an input of a space.

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0x40: Set Motion Processing Mode

This command is used to provide settings for Motion Processing Mode.

S T X	0x02
C M D 1	0x20
C M D 2	0x40
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (8 bytes)

Input Timing Table No.	3 bytes: "000 ~ 100" '0': Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: "00 ~ 10" '0': Current Preset No.
","	1 byte: 0x2C
Motion Processing Mode	1 byte: "0 ~ 1"

Motion Processing Mode '0': OFF '1': 2-2 Pull Down

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x41: Set Zoom Mode

This command is used to provide settings for Zoom Mode.

S T X	0x02
C M D 1	0x20
C M D 2	0x41
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (10 bytes)

Input Timing Table No.	3 bytes: "000 ~ 100" '0': Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: "00 ~ 10" '0': Current Preset No.
","	1 byte: 0x2C
H Zoom Mode	1 byte: "0 ~ 3"
","	1 byte: 0x2C
V Zoom Mode	1 byte: "0 ~ 3"

Zoom Mode '0': AUTO1 '1': AUTO2 '2': AUTO3 '3': Pixel

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x42: Set TBC Mode

This command is used to provide settings for TBC Mode.

S T X	0x02
C M D 1	0x20
C M D 2	0x42
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (8 bytes)

Input Timing Table No.	3 bytes: "000 ~ 100" '0': Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: "00 ~ 10" '0': Current Preset No.
","	1 byte: 0x2C
TBC Mode	1 byte: '0': OFF '1': ON

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x43: Set Enhance Level

This command is used to provide settings for Enhance Level.

S T X	0x02
C M D 1	0x20
C M D 2	0x43
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (9 bytes)

Input Timing Table No.	3 bytes: "000 ~ 100" '0': Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: "00 ~ 10" '0': Current Preset No.
","	1 byte: 0x2C
Enhance Level	2 bytes: "-4 ~ +4" (-0 or +0 means Enhance OFF)

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x45: Set Sampling Phase

This command is used to provide settings for Sampling Phase.

S T X	0x02
C M D 1	0x20
C M D 2	0x45
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (9 bytes)

Input Timing Table No.	3 bytes: "000 ~ 100" '0': Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: "00 ~ 10" '0': Current Preset No.
","	1 byte: 0x2C
Sampling Phase	2 bytes: "00 ~ 63" , '64': Auto

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x46: Set Input Video Level

This command is used to provide settings for Input Video Level.

S T X	0x02
C M D 1	0x20
C M D 2	0x46
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (18 bytes)

Input Timing Table No.	3 bytes: "000 ~ 100" '0': Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: "00 ~ 10" '0': Current Preset No.
","	1 byte: 0x2C
Input Video Level (R)	3 bytes: "-10 ~ +10" % Value bases on 0.7V as reference.
","	1 byte: 0x2C
Input Video Level (G)	3 bytes: "-10 ~ +10" % Value bases on 0.7V as reference
","	1 byte: 0x2C
Input Video Level (B)	3 bytes: "-10 ~ +10" % Value bases on 0.7V as reference

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x47: Set Hue

This command is used to provide settings for Hue.

S T X	0x02
C M D 1	0x20
C M D 2	0x47
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (11 bytes)

Input Timing Table No.	3 bytes: "000 ~ 100" '0': Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: "00 ~ 10" '0': Current Preset No.
","	1 byte: 0x2C
Hue	4 bytes: "-180 ~ +180" °

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x48: Set Input Brightness

This command is used to provide settings for Input Brightness.

S T X	0x02
C M D 1	0x20
C M D 2	0x48
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (10 bytes)

Input Timing Table No.	3 bytes: "000 ~ 100" '0': Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: "00 ~ 10" '0': Current Preset No.
","	1 byte: 0x2C
Input Brightness	3 bytes: "-15 ~ +15" Steps

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x49: Set Input Contrast

This command is used to provide settings for Input Contrast.

S T X	0x02
C M D 1	0x20
C M D 2	0x49
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (10 bytes)

Input Timing Table No.	3 bytes: "000 ~ 100" '0': Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: "00 ~ 10" '0': Current Preset No.
","	1 byte: 0x2C
Input Contrast	3 bytes: "-10 ~ +10" %

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x4A: Set Input Color

This command is used to provide settings for Input Color.

S T X	0x02
C M D 1	0x20
C M D 2	0x4A
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (10 bytes)

Input Timing Table No.	3 bytes: "000 ~ 100" '0': Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: "00 ~ 10" '0': Current Preset No.
","	1 byte: 0x2C
Input Color	3 bytes: "-10 ~ +10" %

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x4B: Set Flicker Control

This command is used to provide settings for Flicker Control.

S T X	0x02
C M D 1	0x20
C M D 2	0x4B
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (8 bytes)

Input Timing Table No.	3 bytes: "000 ~ 100" '0': Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: "00 ~ 10" '0': Current Preset No.
","	1 byte: 0x2C
Flicker Control	1 byte: "0 ~ 3" '0': OFF

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x4C: Set Back Porch Delay

This command is used to provide settings for Back Porch Delay.

S T X	0x02
C M D 1	0x20
C M D 2	0x4C
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (12 bytes)

Input Timing Table No.	3 bytes: "000 ~ 100" '0': Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: "00 ~ 10" '0': Current Preset No.
","	1 byte: 0x2C
Back Porch Delay	5 bytes: "-1000 ~ +1000" ×1/1000%

NOTE: The range for Back Porch Delay settings vary according to the H Disp value in Input Timing. (±4 dots Max)

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x4D: Set Input Color Space

This command is used to provide settings for Input Color Space.

S T X	0x02
C M D 1	0x20
C M D 2	0x4D
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (8 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.
","	1 byte: 0x2C
Input Color Space	1 byte: “0 ~ 4”

Input Color Space: ‘0’: RGB ‘1’: SMPTE-125M ‘2’: SMPTE-240M
‘3’: SMPTE-274M ‘4’: SMPTE-296M

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0x4E: Set Preset Data

This command is used to provide settings for all preset data.

S T X	0x02
C M D 1	0x20
C M D 2	0x4E
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM (58 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.
","	1 byte: 0x2C
Motion Processing Mode	1 byte: “0 ~ 1” ‘0’: OFF ‘1’: 2:2pull
","	1 byte: 0x2C
H Zoom Mode	1 byte: “0 ~ 3”
","	1 byte: 0x2C
V Zoom Mode	1 byte: “0 ~ 3”
","	1 byte: 0x2C
TBC Mode	1 byte: ‘0’: OFF ‘1’: ON
","	1 byte: 0x2C
Enhance Level	1 byte: “-4 ~ +4” (-0 or +0 means Enhance OFF)
","	1 byte: 0x2C
Sampling Phase	2 bytes: “00 ~ 63”,’64’: Auto
","	1 byte: 0x2C
Input Video Level (R)	3 bytes: “-10 ~ +10” % Value bases on 0.7V as reference
","	1 byte: 0x2C
Input Video Level (G)	3 bytes: “-10 ~ +10” % Value bases on 0.7V as reference
","	1 byte: 0x2C
Input Video Level (B)	3 bytes: “-10 ~ +10” % Value bases on 0.7V as reference
","	1 byte: 0x2C
Hue	4 bytes: “-180 ~ +180”
","	1 byte: 0x2C
Input Brightness	3 bytes: “-15 ~ +15” Steps
","	1 byte: 0x2C
Input Contrast	3 bytes: “-10 ~ +10” %
","	1 byte: 0x2C
Input Color	3 bytes: “-10 ~ +10” %
","	1 byte: 0x2C
Flicker Control	1 byte: “0 ~ 3” ‘0’: OFF
","	1 byte: 0x2C
Back Porch Delay	5 bytes: “-1000 ~ +1000” ×1/1000%
","	1 byte: 0x2C
Input Color Space	1 byte: “0 ~ 4” *

Input Color Space: ‘0’: RGB ‘1’: SMPTE-125M ‘2’: SMPTE-240M
‘3’: SMPTE-274M ‘4’: SMPTE-296M

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0x50: Set Preset Table No.

This command is used to provide settings for Preset Table No.

S T X	0x02
C M D 1	0x20
C M D 2	0x50
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6~21 bytes)

Number of Windows to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”

Specify this part once for each individual window.

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x51: Set Input Signal Search Mode

This command is used to provide settings for Input Signal Search Mode.

S T X	0x02
C M D 1	0x20
C M D 2	0x51
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (5~17 bytes)

Number of Windows to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Input Signal Search Mode	1 byte: ‘0’: Auto ‘1’: Fixed

Specify this part once for each individual window.

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x52: Set Fixed Input Timing No.

This command is used to provide settings for Fixed Input Timing No.

S T X	0x02
C M D 1	0x20
C M D 2	0x52
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (7~25 bytes)

Number of Windows to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	Specify this part once for each individual window.
Window to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	
Fixed Input Timing No.	3 bytes: “001 ~ 100”	

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x53: Set Input Gamma Correction Mode

This command is used to provide settings for Input Gamma Correction Mode
(Settings are effective when Output Color Space is set to RGB.)

S T X	0x02
C M D 1	0x20
C M D 2	0x53
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (5~17 bytes)

Number of Windows to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	Specify this part once for each individual window.
Window to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	
Input Gamma Correction Mode	1 byte: “0 ~ 6”	

Input Gamma Correction Mode ‘0’: OFF ‘1’: Gamma Correction ‘2’: Reverse Gamma Correction
‘3’~’6’: LUT Setting1~4

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x54: Set Input Gamma Correction Value

This command is used to provide settings for Input Gamma Correction Value.
(Settings are effective when Output Color Space is set to RGB.)

S T X	0x02
C M D 1	0x20
C M D 2	0x54
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (12~45 bytes)

Number of Windows to Set	1 byte: "1 ~ 4"
","	1 byte: 0x2C
Window to Set	1 byte: "1 ~ 4"
","	1 byte: 0x2C
Input Gamma Correction Value (R)	2 bytes: "10 ~ 30"
","	1 byte: 0x2C
Input Gamma Correction Value (G)	2 bytes: "10 ~ 30"
","	1 byte: 0x2C
Input Gamma Correction Value (B)	2 bytes: "10 ~ 30"

Specify this part once for each individual window.

Setting for Input Gamma Correction Value is 1.0~3.0.

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0x56: Set Freeze

This command is used to provide settings for Freeze.

S T X	0x02
C M D 1	0x20
C M D 2	0x56
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (5~17 bytes)

Number of Windows to Set	1 byte: "1 ~ 4"
","	1 byte: 0x2C
Window to Set	1 byte: "1 ~ 4"
","	1 byte: 0x2C
Freeze	1 byte: "0 ~ 3"

Specify this part once for each individual window.

Freeze '0': OFF '1': ON '2': Special 1 ON '3': Special 2 ON

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0x57: Set Sync Loss Mode

This command is used to provide settings for Sync Loss Mode.

S T X	0x02
C M D 1	0x20
C M D 2	0x57
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (5~17 bytes)

Number of Windows to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	Specify this part once for each individual window.
Window to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	
Sync Loss Mode	1 byte: “0 ~ 8”	

Sync Loss Mode ‘0’: Black ‘1’: Red ‘2’: Green ‘3’: Yellow ‘4’: Blue
‘5’: Magenta ‘6’: Cyan ‘7’: White ‘8’: Window OFF

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x58: Set Base Sampling Phase

This command is used to provide settings for Sampling Phase of base input.
(This command is effective only when base input is present.)

S T X	0x02
C M D 1	0x20
C M D 2	0x58
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Sampling Phase 2 bytes: “00 ~ 64” “64”: Auto

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x59: Set Base Input Video Level

This command is used to provide settings for Base Input Video Level.
(This command is effective only when base input is present.)

S T X	0x02
C M D 1	0x20
C M D 2	0x46
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (11 bytes)

Input Video Level (R)	3 bytes: "-10 ~ +10" %	Value bases on 0.7V as reference
","	1 byte: 0x2C	
Input Video Level (G)	3 bytes: "-10 ~ +10" %	Value bases on 0.7V as reference
","	1 byte: 0x2C	
Input Video Level (B)	3 bytes: "-10 ~ +10" %	Value bases on 0.7V as reference

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0x60: Set Mask Table No.

This command is used to provide settings for Mask Table No.

S T X	0x02
C M D 1	0x20
C M D 2	0x60
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Mask Table No. (2 bytes) "01 ~ 50"

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x61: Set Output Timing No.

This command is used to provide settings for Output Timing No.

S T X	0x02
C M D 1	0x20
C M D 2	0x61
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Output Timing No. (2 bytes) "01 ~ 20"

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x62: Set Scan Convert ON/OFF

This command is used to provide settings for Scan Covert ON/OFF
(It is effective only when analog signal is output.)

S T X	0x02
C M D 1	0x20
C M D 2	0x62
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Scan Covert (1 byte) '0': OFF '1': ON

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x63: Set Lock Mode

This command is used to provide settings for Lock Mode.

S T X	0x02
C M D 1	0x20
C M D 2	0x63
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Lock Mode (1 byte) '0': OFF '1': Line Lock '2': Frame Lock

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x64: Set Line Lock Horizontal Phase Adjustment

This command is used to provide settings for Line Lock Horizontal Phase Adjustment.

S T X	0x02
C M D 1	0x20
C M D 2	0x64
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Line Lock Horizontal Phase Adjustment (4 bytes) "-999 ~ +999" dots

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x65: Set Line Lock Vertical Phase Adjustment

This command is used to provide settings for Line Lock Vertical Phase Adjustment.

S T X	0x02
C M D 1	0x20
C M D 2	0x65
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Line Lock Vertical Phase Adjustment (5 bytes) "-2048 ~ +2048" lines

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x66: Set Frame Lock Horizontal Phase Adjustment

This command is used to provide settings for Frame Lock Horizontal Phase Adjustment.

S T X	0x02
C M D 1	0x20
C M D 2	0x66
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Frame Lock Horizontal Phase Adjustment (4 bytes) "-999 ~ +999" dots

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x67: Set Frame Lock Vertical Phase Adjustment

This command is used to provide settings for Frame Lock Vertical Phase Adjustment.

S T X	0x02
C M D 1	0x20
C M D 2	0x67
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Frame Lock Vertical Phase Adjustment (5 bytes) "-2048 ~ +2048" lines

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x68: Set Output Video Level

This command is used to provide settings for Output Video Level.
(Settings are effective when Output Color Space is set to RGB.)

S T X	0x02
C M D 1	0x20
C M D 2	0x68
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (11 bytes)

Output Video Level (R)	3 bytes: "-10 ~ +10" %	Value bases on 0.7V as reference
","	1 byte: 0x2C	
Output Video Level (G)	3 bytes: "-10 ~ +10" %	Value bases on 0.7V as reference
","	1 byte: 0x2C	
Output Video Level (B)	3 bytes: "-10 ~ +10" %	Value bases on 0.7V as reference

NOTE: Settings can be made only when analog signal is output.

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0x69: Set Output Sync Type

This command is used to provide settings for Output Sync Type.

S T X	0x02
C M D 1	0x20
C M D 2	0x69
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Output Sync Type (1 byte) '0': HS/VS '1': CS '2': Tri-Level CS

NOTE: Settings can be made only when analog signal is output.

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0x6A: Set Output Sync ON

This command is used to provide settings for Output Sync ON.

S T X	0x02
C M D 1	0x20
C M D 2	0x6A
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Output Sync ON (1 byte) '0': OFF '1': Gon '2': RGBon

NOTE: Settings can be made only when analog signal is output.

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x6B: Set Output Sync Level

This command is used to provide settings for Output Sync Level.
(Settings are effective when Output Sync Type is set to CS.)

S T X	0x02
C M D 1	0x20
C M D 2	0x6B
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Output Sync Level (1 byte) '0': Analog '1': TTL

NOTE: Settings can be made only when analog signal is output.

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x6C: Set Test Pattern

This command is used to provide settings for Test Pattern.

S T X	0x02
C M D 1	0x20
C M D 2	0x6C
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (9 bytes)

Test Pattern	1 byte: “0 ~ 8” *
","	1 byte: 0x2C
Inversion	1 byte: ‘0’: No ‘1’: Yes
","	1 byte: 0x2C
R ON/OFF	1 byte: ‘0’: OFF ‘1’: ON
","	1 byte: 0x2C
G ON/OFF	1 byte: ‘0’: OFF ‘1’: ON
","	1 byte: 0x2C
B ON/OFF	1 byte: ‘0’: OFF ‘1’: ON

*Test Pattern ‘0’: OFF ‘1’: Cross Hatch ‘2’: Burst ‘3’: Clor Bars
‘4’: Circles ‘5’: Cross ‘6’: Ramp ‘7’: External Frame
‘8’: External Frame + Cross + Circles

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x6D: Set Output Brightness

This command is used to provide settings for Output Brightness.

S T X	0x02
C M D 1	0x20
C M D 2	0x6D
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Brightness (3 bytes) "-15 ~ +15" Steps (1 step is approx. 0.3 mV)

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x6E: Set Output Contrast

This command is used to provide settings for Output Contrast.

S T X	0x02
C M D 1	0x20
C M D 2	0x6E
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Contrast (3 bytes) "-10 ~ +10" %

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x6F: Set Output Color

This command is used to provide settings for Output Color.
(Settings are effective when Output Color Space is set to Color Difference.)

S T X	0x02
C M D 1	0x20
C M D 2	0x6F
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Color (3 bytes) "-10 ~ +10" %

NOTE: Settings can be made only when analog signal is output.

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x70: Set Output Gamma Correction Mode

This command is used to provide settings for Output Gamma Correction Mode.
(Settings are effective when Output Color Space is set to RGB.)

S T X	0x02
C M D 1	0x20
C M D 2	0x70
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Output Gamma Correction Mode '0': OFF '1': Gamma Correction '2': Reverse Gamma Correction
'3': LUT Setting

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x71: Set Output Gamma Correction Value

This command is used to provide settings for Output Gamma Correction Value.
(Settings are effective when Output Color Space is set to RGB.)

S T X	0x02
C M D 1	0x20
C M D 2	0x71
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (8 bytes)

Output Gamma Correction Value (R)	2 bytes: "10 ~ 30"
","	1 byte: 0x2C
Output Gamma Correction Value (G)	2 bytes: "10 ~ 30"
","	1 byte: 0x2C
Output Gamma Correction Value (B)	2 bytes: "10 ~ 30"

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x72: Set Output Color Space

This command is used to provide settings for Output Color Space.

S T X	0x02
C M D 1	0x20
C M D 2	0x72
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Output Color Space (1 byte) '0': RGB '1': SMPTE-125M '2': SMPTE-240M
'3': SMPTE-274M '4': SMPTE-296M

NOTE: Settings can be made only when analog signal is output.

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x74: Set Display Type

This command is used to provide settings for Display Type.
(It is not available in the SC-2040 series.)

S T X	0x02
C M D 1	0x20
C M D 2	0x74
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Display Type (1 byte) '0': USER '1': DLP '2': LCD '3': CRT

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x75: Set Link Mode

This command is used to provide settings for Link Mode.

S T X	0x02
C M D 1	0x20
C M D 2	0x75
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Link Mode (1 byte) '0': OFF '1': Master '2': Slave

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x76: Set Extended Test Pattern

This command is used to provide settings for Extended Test Pattern.

S T X	0x02
C M D 1	0x20
C M D 2	0x76
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (33 bytes)

Test Pattern	1 byte: "0 ~ 2" *
","	1 byte: 0x2C
Inversion	1 byte: '0': No '1': Yes
","	1 byte: 0x2C
R ON/OFF	1 byte: '0': OFF '1': ON
","	1 byte: 0x2C
G ON/OFF	1 byte: '0': OFF '1': ON
","	1 byte: 0x2C
B ON/OFF	1 byte: '0': OFF '1': ON
","	1 byte: 0x2C
Test Pattern H Size	5 bytes: "00256 ~ 20000"
","	1 byte: 0x2C
Test Pattern V Size	5 bytes: "00256 ~ 20000"
","	1 byte: 0x2C
Start X Coordinate	5 bytes: "00000 ~ 20000"
","	1 byte: 0x2C
Start Y Coordinate	5 bytes: "00000 ~ 20000"

*Test Pattern '0': OFF '1': Cross Hatch '2': Cross

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x77: Set OSD Arbitrary Character Display ON/OFF

This command is used to provide ON/OFF settings for OSD Arbitrary Character Display.

S T X	0x02
C M D 1	0x20
C M D 2	0x77
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

OSD Arbitrary Character Display (1 byte) '0': OFF '1': ON

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x78: Set OSD Arbitrary Character Data

This command is used to provide settings for OSD Arbitrary Character Data.

S T X	0x02
C M D 1	0x20
C M D 2	0x78
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

OSD Arbitrary Character Data (8 bytes) 8 characters

Characters that can be used are: "0x20 ('□')~ 0x7A ('z').

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x79: Set Output Sync Polarity

This command is used to provide settings for Output Sync Polarity.

S T X	0x02
C M D 1	0x20
C M D 2	0x79
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Output Sync Type (1 byte) '0': Negative Polarity '1': Positive Polarity

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x80: Set Frame Display

This command is used to provide settings for Frame Display.

S T X	0x02
C M D 1	0x20
C M D 2	0x80
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (8~20 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ’00’: Current Mask Table No.	
","	1 byte: 0x2C	
Number of Windows to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	Specify this part once for each individual window.
Window to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	
Frame Display ON/OFF	1 byte: ‘0’: OFF ‘1’: ON	

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x81: Set Frame Color

This command is used to provide settings for Frame Color.

S T X	0x02
C M D 1	0x20
C M D 2	0x81
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (4 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ’00’: Current Mask Table No.
","	1 byte: 0x2C
Frame Color	1 byte: “0 ~ 7”

Frame Color (1 byte) ‘0’: Black ‘1’: Red ‘2’: Green ‘3’: Yellow
‘4’: Blue ‘5’: Magenta ‘6’: Cyan ‘7’: White

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x82: Set Window Preference Order

This command is used to provide settings for Window Preference Order.
(It is not available in the SC-2040 series.)

S T X	0x02
C M D 1	0x20
C M D 2	0x82
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (3~10 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ’00’: Current Mask Table No.
","	1 byte: 0x2C
Window to Set	1~7 bytes: “1 ~ 4”

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x83: Set As First in Window Display Sequence

This command is used to bring the specified window to the top of the display.
(It is not available in the SC-2040 series.)

S T X	0x02
C M D 1	0x20
C M D 2	0x83
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (4 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ’00’: Current Mask Table No.
","	1 byte: 0x2C
First Window in Display Sequence	1 byte: “1 ~ 4”

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x84: Set As Last in Window Display Sequence

This command is used to send the specified window to the bottom of the display.
(It is not available in the SC-2040 series.)

S T X	0x02
C M D 1	0x20
C M D 2	0x84
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (4 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ’00’: Current Mask Table No.
","	1 byte: 0x2C
Last Window in Display Sequence	1 byte: “1 ~ 4”

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x85: Set Window Display ON/OFF

This command is used to provide settings for Window Display ON/OFF

S T X	0x02
C M D 1	0x20
C M D 2	0x85
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (8~20 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ’00’: Current Mask Table No.
","	1 byte: 0x2C
Number of Windows to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window Display ON/OFF	1 byte: ‘0’: OFF ‘1’: ON

Specify this part once for each individual window.

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x86: Set Window Input Start and End Coordinates

This command is used to provide settings for Window Input Start and End Coordinates.

S T X	0x02
C M D 1	0x20
C M D 2	0x86
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (32~116 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ’00’: Current Mask Table No.
","	1 byte: 0x2C
Number of Windows to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window Input Start X Coordinate	5 bytes: “00000 ~ 99999”
","	1 byte: 0x2C
Window Input Start Y Coordinate	5 bytes: “00000 ~ 99999”
","	1 byte: 0x2C
Window Input End X Coordinate	6 bytes: “000001 ~ 100000”
","	1 byte: 0x2C
Window Input End Y Coordinate	6 bytes: “000001 ~ 100000”

Specify this part once for each individual window.

Coordinate values are multiplied by 1/1000 %.

Input coordinates as parameters when Dot Setting Mode is ON.
Range of Setting: 0 ~ DispMax
DispMax refers to the maximum value of Hdisp for the horizontal direction and Vdisp for the vertical direction.

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0x87: Set Window Output Start and End Coordinates

This command is used to provide settings for Window Output Start and End Coordinates.

S T X	0x02
C M D 1	0x20
C M D 2	0x87
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (32~116 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ’00’: Current Mask Table No.	
","	1 byte: 0x2C	
Number of Windows to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	Specify this part once for each individual window.
Window to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	
Window Output Start X Coordinate	5 bytes: “00000 ~ 99999”	
","	1 byte: 0x2C	
Window Output Start Y Coordinate	5 bytes: “00000 ~ 99999”	
","	1 byte: 0x2C	
Window Output End X Size	6 bytes: “000001 ~ 100000”	
","	1 byte: 0x2C	
Window Output End Y Size	6 bytes: “000001 ~ 100000”	

Coordinate values are multiplied by 1/1000 %.

Input coordinates as parameters when Dot Setting Mode is ON.
Range of Setting: 0 ~ DispMax
DispMax refers to the maximum value of Hdisp for the horizontal direction and Vdisp for the vertical direction.

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0x88: Set Window Display Start and End Coordinates

This command is used to provide settings for Window Display Start and End Coordinates.

S T X	0x02
C M D 1	0x20
C M D 2	0x88
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (32~116 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ’00’: Current Mask Table No.
","	1 byte: 0x2C
Number of Windows to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window Display Start X Coordinate	5 bytes: “00000 ~ 99999”
","	1 byte: 0x2C
Window Display Start Y Coordinate	5 bytes: “00000 ~ 99999”
","	1 byte: 0x2C
Window Display End X Coordinate	6 bytes: “000001 ~ 100000”
","	1 byte: 0x2C
Window Display End Y Coordinate	6 bytes: “000001 ~ 100000”

Specify this part once for each individual window.

Coordinate values are multiplied by 1/1000 %.

Input coordinates as parameters when Dot Setting Mode is ON.
Range of Setting: 0 ~ DispMax
DispMax refers to the maximum value of Hdisp for the horizontal direction and Vdisp for the vertical direction.

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0x89: Set Output Display Start and End Coordinates

This command is used to provide settings for Output Display Start and End Coordinates.

S T X	0x02
C M D 1	0x20
C M D 2	0x89
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (28 bytes)

Mask Table No.	2 bytes: "00 ~ 50" '00': Current Mask Table No.
","	1 byte: 0x2C
Output Display Start X Coordinate	5 bytes: "00000 ~ 99999" ×1/1000 %
","	1 byte: 0x2C
Output Display Start Y Coordinate	5 bytes: "00000 ~ 99999" ×1/1000 %
","	1 byte: 0x2C
Output Display End X Coordinate	6 bytes: "000000 ~ 100000" ×1/1000 %
","	1 byte: 0x2C
Output Display End Y Coordinate	6 bytes: "000000 ~ 100000" ×1/1000 %

Input coordinates as parameters when Dot Setting Mode is ON.
Range of Setting: 0 ~ DispMax
DispMax refers to the maximum value of Hdisp for the horizontal direction and Vdisp for the vertical direction.

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0x8A: Set Base Display ON/OFF

This command is used to provide settings for Base Display ON/OFF.
(This command is effective only when base input is present.)

S T X	0x02
C M D 1	0x20
C M D 2	0x8A
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (4 bytes)

Mask Table No.	2 bytes: "00 ~ 50" '00': Current Mask Table No.
","	1 byte: 0x2C
Base Display	1 byte: '0': OFF '1': ON

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x8B: Set Base Color

This command is used to provide settings for Base Color.

S T X	0x02
C M D 1	0x20
C M D 2	0x8B
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (4 bytes)

Mask Table No.	2 bytes: "00 ~ 50" '00': Current Mask Table No.
","	1 byte: 0x2C
Base Color	1 byte: "0 ~ 7"

Base Color (1 byte) '0': Black '1': Red '2': Green '3': Yellow
'4': Blue '5': Magenta '6': Cyan '7': White

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x8C: Set Window Zoom Data

This command is used to provide settings for Window Zoom Data.
(Settings are for input and output display coordinates.)

S T X	0x02
C M D 1	0x20
C M D 2	0x8C
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM (56 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ’00’: Current Mask Table No.
","	1 byte: 0x2C
Window to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window Input Start X Coordinate	5 bytes: “00000 ~ 99999” × 1/1000 %
","	1 byte: 0x2C
Window Input Start Y Coordinate	5 bytes: “00000 ~ 99999” × 1/1000 %
","	1 byte: 0x2C
Window Input End X Coordinate	6 bytes: “000001 ~ 100000” × 1/1000 %
","	1 byte: 0x2C
Window Input End Y Coordinate	6 bytes: “000001 ~ 100000” × 1/1000 %
","	1 byte: 0x2C
Window Output Start X Coordinate	5 bytes: “00000 ~ 99999” × 1/1000 %
","	1 byte: 0x2C
Window Output Start Y Coordinate	5 bytes: “00000 ~ 99999” × 1/1000 %
","	1 byte: 0x2C
Window Output End X Coordinate	6 bytes: “000001 ~ 100000” × 1/1000 %
","	1 byte: 0x2C
Window Output End Y Coordinate	6 bytes: “000001 ~ 100000” × 1/1000 %

Input coordinates as parameters when Dot Setting Mode is ON.
Range of Setting: 0 ~ DispMax
DispMax refers to the maximum value of Hdisp for the horizontal direction and Vdisp for the vertical direction.

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0x8D: Set Key Composition ON/OFF

This command is used to provide settings for Key Composition ON/OFF.
(This command is effective only when base input is present.)

S T X	0x02
C M D 1	0x20
C M D 2	0x8D
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (4 bytes)

Mask Table No.	2 bytes: "00 ~ 50" '00': Current Mask Table No.
","	1 byte: 0x2C
Key Composition	1 byte: '0': OFF '1': ON

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x8E: Set Key Composition Data

This command is used to provide settings for Key Composition Data.
(This command is effective only when base input is present.)

S T X	0x02
C M D 1	0x20
C M D 2	0x8E
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (12 bytes)

Mask Table No.	2 bytes: "00 ~ 50" '00': Current Mask Table No.
","	1 byte: 0x2C
Key Level	3 bytes: "000 ~ 100"%
","	1 byte: 0x2C
Transparency	3 bytes: "000 ~ 100"%
","	1 byte: 0x2C
Key Inversion	1 byte: '0': OFF '1': ON

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x8F: Set Mask Table Name

This command is used to provide settings for Mask Table Name.

S T X	0x02
C M D 1	0x20
C M D 2	0x8F
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (11 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ’00’: Current Mask Table No.
","	1 byte: 0x2C
Mask Table Name	8 bytes: 8 characters

Characters that can be used are: “0x20 (‘□’)~ 0x7A (‘z’).
(Some characters may not be displayed.)

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0x90: Set Display Rate

This command is used to provide settings for Display Rate.

S T X	0x02
C M D 1	0x20
C M D 2	0x90
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Display Rate (1 byte) '0': HV JUST '1': H JUST '2': V JUST

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x91: Set LUT Data

This command is used to provide settings for LUT Data.

S T X	0x02
C M D 1	0x20
C M D 2	0x91
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (517 bytes)

LUT Table No.	1 byte: "1 ~ 5" *1
","	1 byte: 0x2C
Color	1 byte: '0': R '1': G '2': B '3': RGB
","	1 byte: 0x2C
Address Range	1 byte: "0 ~ 1" *2
","	1 byte: 0x2C
Address 0	3 bytes: "000 ~ 255"
","	1 byte: 0x2C
Address 1	3 bytes: "000 ~ 255"
• •	
Address 126	3 bytes: "000 ~ 255"
","	1 byte: 0x2C
Address 127	3 bytes: "000 ~ 255"

*1 LUT Table No. "1~4": Input Side LUT '5': Output Side LUT
*2 Address Range '0': Addresses 0~127 '1': Addresses 128~255

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0x92: Set Auto Display

This command is used to automatically measure and set a display period of Input Timing.

S T X	0x02
C M D 1	0x20
C M D 2	0x92
E T X	0x03
B C C	Checksum

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0xB0: Set Multi-Screen Configuration

This command is used to provide settings for Multi-Screen Configuration.

S T X	0x02
C M D 1	0x20
C M D 2	0xB0
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (5 bytes)

Number in X Direction	2 bytes: "01 ~ 10"
","	1 byte: 0x2C
Number in Y Direction	2 bytes: "01 ~ 10"

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0xB1: Set Multi-Screen Address

This command is used to provide settings for Multi-Screen Address.

S T X	0x02
C M D 1	0x20
C M D 2	0xB1
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Multi-Screen Address (3 bytes) "001 ~ 100"

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0xB2: Set Virtual Coordinate Mode

This command is used to provide settings for Virtual Coordinate Mode.

S T X	0x02
C M D 1	0x20
C M D 2	0xB2
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Virtual Coordinate Mode (1 byte) '0': OFF '1': ON

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0xB3: Set Dot Setting Mode

This command is used to provide settings for Dot Setting Mode.

S T X	0x02
C M D 1	0x20
C M D 2	0xB3
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Dot Setting Mode (1 byte) '0': OFF '1': ON

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x20, 0xE0: Save All RAM Data

This command is used to save all data in RAM.

S T X	0x02
C M D 1	0x20
C M D 2	0xE0
E T X	0x03
B C C	Checksum

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK

0x20, 0xE1: Initialize RAM Data

This command is used to initialize all data in RAM.

S T X	0x02
C M D 1	0x20
C M D 2	0xE1
E T X	0x03
B C C	Checksum

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK

0x20, 0xE2: Load Flash Data

This command is used to load data in Flash ROM into RAM.

S T X	0x02
C M D 1	0x20
C M D 2	0xE2
E T X	0x03
B C C	Checksum

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK

0x20, 0xE3: Delete Timing Table

This command is used to delete a timing table.

S T X	0x02
C M D 1	0x20
C M D 2	0xE3
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (5 bytes)

Timing Table Type	1 byte: '0': Input Timing Table '1': Output Timing Table
","	1 byte: 0x2C
Timing Table No.	3 bytes: "001 ~ 100"

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0xE4: Copy Timing Table

This command is used to copy a timing table.

S T X	0x02
C M D 1	0x20
C M D 2	0xE4
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (9 bytes)

Timing Table Type	1 byte: '0': Input Timing Table '1': Output Timing Table
","	1 byte: 0x2C
Timing Table No. A	3 bytes: "001 ~ 104" (RAM)
","	1 byte: 0x2C
Timing Table No. B	3 bytes: "001 ~ 100" (RAM)

- Data is copied from A to B.
- Specify a Timing Table No. that is not registered for Table No. B.

Value Returned from SC

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR
Execution Error	: EXEC_ERR

- Execution Error is returned when a Timing Table No. whose timing is not registered is specified for Timing Table No. A, or when a Timing Table No. whose timing is registered is specified for Timing Table No. B.

0x20, 0xE5: Swap Input Timing Table

This command is used to swap data in input timing tables.

S T X	0x02
C M D	0x20
C M D	0xE5
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (7 bytes)

Timing Table No. A	3 bytes: "001 ~ 100"
","	1 byte: 0x2C
Timing Table No. B	3 bytes: "001 ~ 100"

- A and B are swapped.
- If a specified Timing Table No. is set as a fixed timing table (command 0x60), the Timing Table Nos. need to be swapped as well.

Value Returned from SC

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x20, 0xE6: Initialize Timing Table

This command is used to initialize a timing table (by copying from ROM).

S T X	0x02
C M D	0x20
C M D	0xE6
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (9 bytes)

Timing Table Type	1 byte: '0': Input Timing Table '1': Output Timing Table
","	1 byte: 0x2C
Timing Table No. A	3 bytes: "001 ~ 040" (ROM)
","	1 byte: 0x2C
Timing Table No. B	3 bytes: "001 ~ 100" (RAM)

- Data is copied from A to B.
- Timing Table No. A should be set as follows:
  When selecting Input Timing Table: "01 ~ 40"
  When selecting Output Timing Table: "01 ~ 12"

Value Returned from SC

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR
Execution Error	: EXEC_ERR

- Execution Error is returned when a Timing Table No. whose timing is registered is specified for Timing Table No. B.

0x20, 0xE7: Copy Preset Table

This command is used to copy data of a preset table.

S T X	0x02
C M D	0x20
C M D	0xE7
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (9 bytes)

Input Timing Table No.	3 bytes: "001 ~ 100"
","	1 byte: 0x2C
Preset Table No.A	2 bytes: "01 ~ 10"
","	1 byte: 0x2C
Preset Table No.B	2 bytes: "01 ~ 10"

- Data is copied from A to B.

Value Returned from SC

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR
Execution Error	: EXEC_ERR

0x20, 0xE8: Initialize Preset Table

This command is used to initialize a preset table.

S T X	0x02
C M D	0x20
C M D	0xE8
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: "001 ~ 100"
","	1 byte: 0x2C
Preset Table No.	2 bytes: "01 ~ 10"

Value Returned from SC

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR
Execution Error	: EXEC_ERR

0x20, 0xE9: Copy Mask Table

This command is used to copy a mask table.

S T X	0x02
C M D	0x20
C M D	0xE9
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (5 bytes)

Mask Table No. A	2 bytes: "01 ~ 50"
","	1 byte: 0x2C
Mask Table No. B	2 bytes: "01 ~ 50"

- Data is copied from A to B.

Value Returned from SC

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR
Execution Error	: EXEC_ERR

0x20, 0xEA: Initialize Mask Table

This command is used to initialize a mask table.

S T X	0x02
C M D	0x20
C M D	0xEA
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Mask Table No. (2 bytes) "01 ~ 50"

Value Returned from SC

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR
Execution Error	: EXEC_ERR

8.2 Acquisition Commands

0x30, 0x20: Get Input Timing Table Data

This command is used to retrieve data from an input timing table.

S T X	0x02
C M D 1	0x30
C M D 2	0x20
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Input Timing Table No. “001~104” (3 bytes) “0”: Current Input Timing Table No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Input Timing Table Data
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (57 bytes)

Timing Table No.	3 bytes: “001 ~ 104”
","	1 byte: 0x2C
Timing Table Name	8 bytes: 8 characters
","	1 byte: 0x2C
Dot Clock	5 bytes: “01700 ~ 16200” *1
","	1 byte: 0x2C
H Period	4 bytes: “0200 ~ 3000”
","	1 byte: 0x2C
H Disp	4 bytes: “0128 ~ 2000”
","	1 byte: 0x2C
H Sync Width	3 bytes: “004 ~ 500”
","	1 byte: 0x2C
H Back Porch	4 bytes: “0000 ~ H Period/2”
","	1 byte: 0x2C
V Total	4 bytes: “0200 ~ 2000”
","	1 byte: 0x2C
V Disp	4 bytes: “0128 ~ 1320”
","	1 byte: 0x2C
V Sync Width	2 bytes: “02 ~ 60”
","	1 byte: 0x2C
V Back Porch	4 bytes: “0000 ~ V Total/2”
","	1 byte: 0x2C
Scan Method	1 byte: ‘0’: Progressive ‘1’: Interlace

*1	Setting of TERA will be: “01700 ~ 16200” corresponding to "17.00 MHz ~ 162.00 MHz" with the ranges of dot clock setting: for interlace 17 MHz ~ 81 MHz for non-interlace 17 MHz ~ 162 MHz

Error:

Command Transmission Error	: NAK
Parameter Error	: PARM_ERR
Execution Error	: EXEC_ERR

- If specified Timing Table No. is not registered, Execution Error is returned when input signal has a sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x21: Get Search Subject

This command is used to retrieve settings of Search Subject.

S T X	0x02
C M D 1	0x30
C M D 2	0x21
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Input Timing Table No. “001~104” (3 bytes) “0”: Current Input Timing Table No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Search Subject
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (5 bytes)

Input Timing No.	3 bytes: “001 ~ 104”
","	1 byte: 0x2C
Search Subject	1 byte: ‘0’: OFF ‘1’: ON

Error:

Command Transmission Error	: NAK
Parameter Error	: PARM_ERR
Execution Error	: EXEC_ERR

- If specified Timing Table No. is not registered, Execution Error is returned when input signal has a sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x30: Get Output Timing Table Data

This command is used to retrieve data from an output timing table.

S T X	0x02
C M D 1	0x30
C M D 2	0x30
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Output Timing Table No. “00 ~ 20” (2 bytes) “00”: Current Output Timing Table No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Output Timing Table Data
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (56 bytes)

Timing Table No.	2 bytes: “01 ~ 20”
","	1 byte: 0x2C
Timing Table Name	8 bytes: 8 characters
","	1 byte: 0x2C
Dot Clock	5 bytes: “01700 ~ 16200” *[1]
","	1 byte: 0x2C
H Period *	4 bytes: “0200 ~ 3000”
","	1 byte: 0x2C
H Disp	4 bytes: “0128 ~ 2000”
","	1 byte: 0x2C
H Sync Width	3 bytes: “004 ~ 500”
","	1 byte: 0x2C
H Back Porch	4 bytes: “0000 ~ H Period/2”
","	1 byte: 0x2C
V Total	4 bytes: “0200 ~ 2048”
","	1 byte: 0x2C
V Disp	4 bytes: “128 ~ 1320”
","	1 byte: 0x2C
V Sync Width	4 bytes: “0002 ~ 60”
","	1 byte: 0x2C
V Back Porch	4 bytes: “0000 ~ V Total/2”
","	1 byte: 0x2C
Scan Method	1 byte: ‘0’: Progressive ‘1’: Interlace

*1	For analog outputs the ranges of dot clock setting are: for interlace 17 MHz ~ 81 MHz for progressive 17 MHz ~ 162 MHz For TMDS outputs the ranges of dot clock setting are: for interlace 25 MHz ~ 81 MHz for progressive 25 MHz ~ 162 MHz

Error:

Command Transmission Error	: NAK
Parameter Error	: PARM_ERR
Execution Error	: EXEC_ERR

- If specified Timing Table No. is not registered, Execution Error is returned when input signal has a sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x40: Get Motion Processing Mode

This command is used to retrieve settings of Motion Processing Mode.

S T X	0x02
C M D 1	0x30
C M D 2	0x40
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Motion Processing Mode
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (8 bytes)

Input Timing Table No.	3 bytes: “001 ~ 100”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”
","	1 byte: 0x2C
Motion Processing Mode	1 byte: “0 ~ 1”

* Motion Processing Mode: ‘0’: OFF ‘1’: 2-2 Pull Down

Error:

Command Transmission Error : NAK

0x30, 0x41: Get Zoom Mode

This command is used to retrieve settings of Zoom Mode.

S T X	0x02
C M D 1	0x30
C M D 2	0x41
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Zoom Mode
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (10 bytes)

Input Timing Table No.	3 bytes: “001 ~ 100”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”
","	1 byte: 0x2C
H Zoom Mode	1 byte: “0 ~ 3” *
","	1 byte: 0x2C
V Zoom Mode	1 byte: “0 ~ 3” *

* Zoom Mode ‘0’: AUTO1 ‘1’: AUTO2 ‘2’: AUTO3 ‘3’: Pixel

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x42: Get TBC Mode

This command is used to retrieve settings of TBC Mode.

S T X	0x02
C M D 1	0x30
C M D 2	0x42
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	TBC Mode
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (8 bytes)

Input Timing Table No.	3 bytes: “001 ~ 100”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”
","	1 byte: 0x2C
TBC Mode	1 byte: ‘0’: OFF ‘1’: ON

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x43: Get Enhance Level

This command is used to retrieve settings of Enhance Level.

S T X	0x02
C M D 1	0x30
C M D 2	0x43
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Enhance Level
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (9 bytes)

Input Timing Table No.	3 bytes: “001 ~ 100”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”
","	1 byte: 0x2C
Enhance Level	2 bytes: “-4 ~ +4”‘

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x45: Get Sampling Phase

This command is used to retrieve settings of Sampling Phase.

S T X	0x02
C M D 1	0x30
C M D 2	0x45
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Sampling Phase
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (9 bytes)

Input Timing Table No.	3 bytes: “001 ~ 100”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”
","	1 byte: 0x2C
Sampling Phase	2 bytes: “00 ~ 63”, ’64’: Auto

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x46: Get Input Video Level

This command is used to retrieve settings of Input Video Level.

S T X	0x02
C M D 1	0x30
C M D 2	0x46
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Input Video Level
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (18 bytes)

Input Timing Table No.	3 bytes: “001 ~ 100”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”
","	1 byte: 0x2C
Input Video Level (R)	3 bytes: “-10 ~ +10” %
","	1 byte: 0x2C
Input Video Level (G)	3 bytes: “-10 ~ +10” %
","	1 byte: 0x2C
Input Video Level (B)	3 bytes: “-10 ~ +10” %

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x47: Get Hue

This command is used to retrieve settings of Hue.

S T X	0x02
C M D 1	0x30
C M D 2	0x47
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Hue
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (11 bytes)

Input Timing Table No.	3 bytes: “001 ~ 100”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”
","	1 byte: 0x2C
Hue	4 bytes: “-180 ~ +180” °

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x48: Get Input Brightness

This command is used to retrieve settings of Input Brightness.

S T X	0x02
C M D 1	0x30
C M D 2	0x48
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Input Brightness
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (10 bytes)

Input Timing Table No.	3 bytes: “001 ~ 100”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”
","	1 byte: 0x2C
Input Brightness	3 bytes: “-15 ~ +15”

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x49: Get Input Contrast

This command is used to retrieve settings of Input Contrast.

S T X	0x02
C M D 1	0x30
C M D 2	0x49
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Input Contrast
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (10 bytes)

Input Timing Table No.	3 bytes: “001 ~ 100”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”
","	1 byte: 0x2C
Input Contrast	3 bytes: “-10 ~ +10” %

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x4A: Get Input Color

This command is used to retrieve settings of Input Color.

S T X	0x02
C M D 1	0x30
C M D 2	0x4A
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Input Color
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (10 bytes)

Input Timing Table No.	3 bytes: “001 ~ 100”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”
","	1 byte: 0x2C
Input Color	3 bytes: “-10 ~ +10”

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x4B: Get Flicker Control

This command is used to retrieve settings of Flicker Control.

S T X	0x02
C M D 1	0x30
C M D 2	0x4B
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Flicker Control
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (8 bytes)

Input Timing Table No.	3 bytes: “001 ~ 100”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”
","	1 byte: 0x2C
Flicker Control	1 byte: “0 ~ 3”

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x4C: Get Back Porch Delay

This command is used to retrieve settings of Back Porch Delay.

S T X	0x02
C M D 1	0x30
C M D 2	0x4C
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Back Porch Delay
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (12 bytes)

Input Timing Table No.	3 bytes: “001 ~ 100”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”
","	1 byte: 0x2C
Back Porch Delay	5 bytes: “-1000 ~ +1000” ×1/1000%

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x4D: Get Input Color Space

This command is used to retrieve settings of Input Color Space.

S T X	0x02
C M D 1	0x30
C M D 2	0x4D
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: "000 ~ 100" '0': Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: "00 ~ 10" '0': Current Preset No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Flicker Control
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (8 bytes)

Input Timing Table No.	3 bytes: "001 ~ 100"
","	1 byte: 0x2C
Preset No.	2 bytes: "01 ~ 10"
","	1 byte: 0x2C
Input Color Space	1 byte: "0 ~ 4" *

* Input Color Space: '0': RGB '1': SMPTE-125M '2': SMPTE-240M
'3': SMPTE-274M '4': SMPTE-296M

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x4E: Get Preset Data

This command is used to retrieve settings of all preset data.

S T X	0x02
C M D 1	0x30
C M D 2	0x4E
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (6 bytes)

Input Timing Table No.	3 bytes: “000 ~ 100” ‘0’: Current Input Timing No.
","	1 byte: 0x2C
Preset No.	2 bytes: “00 ~ 10” ‘0’: Current Preset No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Preset Data
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (58 bytes)

Input Timing Table No.	3 bytes: “001 ~ 100”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”
","	1 byte: 0x2C
Motion Processing Mode	1 byte: “0 ~ 1” ‘0’: OFF ‘1’: 2:2pull
","	1 byte: 0x2C
H Zoom Mode	1 byte: “0 ~ 3”
","	1 byte: 0x2C
V Zoom Mode	1 byte: “0 ~ 3”
","	1 byte: 0x2C
TBC Mode	1 byte: ‘0’: OFF ‘1’: ON
","	1 byte: 0x2C
Enhance Level	1 byte: “-4 ~ +4” (-0 or +0 means Enhance OFF)
","	1 byte: 0x2C
Sampling Phase	2 bytes: “00 ~ 63”, ’64’: Auto
","	1 byte: 0x2C
Input Video Level (R)	3 bytes: “-10 ~ +10” % Value bases on 0.7V as reference
","	1 byte: 0x2C
Input Video Level (G)	3 bytes: “-10 ~ +10” % Value bases on 0.7V as reference
","	1 byte: 0x2C
Input Video Level (B)	3 bytes: “-10 ~ +10” % Value bases on 0.7V as reference
","	1 byte: 0x2C
Hue	4 bytes: “-180 ~ +180”
","	1 byte: 0x2C
Input Brightness	3 bytes: “-15 ~ +15” Steps
","	1 byte: 0x2C
Input Contrast	3 bytes: “-10 ~ +10” %
","	1 byte: 0x2C
Input Color	3 bytes: “-10 ~ +10” %
","	1 byte: 0x2C
Flicker Control	1 byte: “0 ~ 3” ‘0’: OFF
","	1 byte: 0x2C
Back Porch Delay	5 bytes: “-1000 ~ +1000” 1/1000%
","	1 byte: 0x2C
Input Color Space	1 byte: “0 ~ 4” *

*Input Color Space: ‘0’: RGB ‘1’: SMPTE-125M ‘2’: SMPTE-240M
‘3’: SMPTE-274M ‘4’: SMPTE-296M

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x30, 0x50: Get Preset Table No.

This command is used to retrieve settings of current Preset Table No.

S T X	0x02
C M D 1	0x30
C M D 2	0x50
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Window No. “1 ~ 4” (1 byte)

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Preset Table No.
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (4 bytes)

Window No.	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Preset No.	2 bytes: “01 ~ 10”

Error:

Command Transmission Error : NAK

0x30, 0x51: Get Input Signal Search Mode

This command is used to retrieve settings of Input Signal Search Mode.

S T X	0x02
C M D 1	0x30
C M D 2	0x51
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Window No. “1 ~ 4” (1 byte)

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Input Signal Search Mode
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (3 bytes)

Window No.	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Input Signal Search Mode	1 byte: ‘0’: Auto ‘1’: Fixed

Error:

Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x30, 0x52: Get Fixed Input Timing No.

This command is used to retrieve settings of Fixed Input Timing No.

S T X	0x02
C M D 1	0x30
C M D 2	0x52
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Window No. “1 ~ 4” (1 byte)

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Fixed Input Timing No.
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (5 bytes)

Window No.	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Fixed Input Timing No.	3 bytes: “001 ~ 100”

Error:

Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x30, 0x53: Get Input Gamma Correction Mode

This command is used to retrieve settings of Input Gamma Correction Mode.

S T X	0x02
C M D 1	0x30
C M D 2	0x53
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Window No. “1 ~ 4” (1 byte)

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Input Gamma Correction Mode *
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (3 bytes)

Window No.	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Input Gamma Correction Mode	1 byte: “0 ~ 6”

* Input Gamma Correction Mode ‘0’: OFF ‘1’: Gamma Correction ‘2’: Reverse Gamma Correction
“3~6”: LUT Setting1~4

Error:

Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x30, 0x54: Get Input Gamma Correction Value

This command is used to retrieve settings of Input Gamma Correction Value.

S T X	0x02
C M D 1	0x30
C M D 2	0x54
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Window No. “1 ~ 4” (1 byte)

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Input Gamma Correction Value
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (10 bytes)

Window No.	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Input Gamma Correction Value (R)	2 bytes: “10 ~ 30”
","	1 byte: 0x2C
Input Gamma Correction Value (G)	2 bytes: “10 ~ 30”
","	1 byte: 0x2C
Input Gamma Correction Value (B)	2 bytes: “10 ~ 30”

Error:

Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x30, 0x56: Get Freeze

This command is used to retrieve settings of Freeze.

S T X	0x02
C M D 1	0x30
C M D 2	0x56
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Window No. “1 ~ 4” (1 byte)

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Freeze
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (3 bytes)

Window No.	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Freeze	1 byte: “0 ~ 3”

* Freeze ‘0’: OFF ‘1’: ON ‘2’: Special 1 ON ‘3’: Special 2 ON

Error:

Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x30, 0x57: Get Sync Loss Mode

This command is used to retrieve settings of Sync Loss Mode.

S T X	0x02
C M D 1	0x30
C M D 2	0x57
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Window No. “1 ~ 4” (1 byte)

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Sync Loss Mode
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (3 bytes)

Window No.	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Sync Loss Mode	1 byte: “0 ~ 8”

* Sync Loss Mode ‘0’: Black ‘1’: Red ‘2’: Green ‘3’: Yellow ‘4’: Blue
‘5’: Magenta ‘6’: Cyan ‘7’: White ‘8’: Window OFF

Error:

Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x30, 0x58: Get Base Sampling Phase

This command is used to retrieve settings of Sampling Phase of base input.
(This command is effective only when base input is present.)

S T X	0x02
C M D 1	0x30
C M D 2	0x58
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Sampling Phase
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (2 bytes)

Sampling Phase	2 bytes: "00 ~ 63"

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned when a sync error occurs in the base input signal.

0x30, 0x59: Get Base Input Video Level

This command is used to retrieve settings of Base Input Video Level.
(This command is effective only when base input is present.)

S T X	0x02
C M D 1	0x30
C M D 2	0x59
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Input Video Level
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (11 bytes)

Input Video Level (R)	3 bytes: “-10 ~ +10” %
","	1 byte: 0x2C
Input Video Level (G)	3 bytes: “-10 ~ +10” %
","	1 byte: 0x2C
Input Video Level (B)	3 bytes: “-10 ~ +10” %

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned when a sync error occurs in the base input signal.

0x30, 0x60: Get Mask Table No.

This command is used to retrieve value of Mask Table No.

S T X	0x02
C M D 1	0x30
C M D 2	0x60
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Mask Table No.
E T X	0x03
B C C	Checksum

PARM

Mask Table No. (2 bytes) "01 ~ 50"

Error:

Command Transmission Error : NAK

0x30, 0x61: Get Output Timing No.

This command is used to retrieve settings of Output Timing No.

S T X	0x02
C M D 1	0x30
C M D 2	0x61
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Output Timing No.
E T X	0x03
B C C	Checksum

PARM

Output Timing No. (2 bytes) "01 ~ 20"

Error:

Command Transmission Error : NAK

0x30, 0x62: Get Scan Convert ON/OFF

This command is used to retrieve ON/OFF setting of Scan Covert
(It is effective only when analog signal is output.)

S T X	0x02
C M D 1	0x30
C M D 2	0x62
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Scan Covert ON/OFF
E T X	0x03
B C C	Checksum

PARM

Scan Covert ON/OFF (1 byte) '0': OFF '1': ON

Error:

Command Transmission Error : NAK

0x30, 0x63: Get Lock Mode

This command is used to retrieve settings of Lock Mode.

S T X	0x02
C M D 1	0x30
C M D 2	0x63
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Lock Mode
E T X	0x03
B C C	Checksum

PARM

Lock Mode (1 byte) '0': OFF '1': Line Lock '2': Frame Lock

Error:

Command Transmission Error : NAK

0x30, 0x64: Get Line Lock Horizontal Phase Adjustment

This command is used to retrieve settings of Line Lock Horizontal Phase Adjustment.

S T X	0x02
C M D 1	0x30
C M D 2	0x64
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Line Lock Horizontal Phase Adjustment
E T X	0x03
B C C	Checksum

PARM

Line Lock Horizontal Phase Adjustment (4 bytes) “-999 ~ +999”

Error:

Command Transmission Error : NAK

0x30, 0x65: Get Line Lock Vertical Phase Adjustment

This command is used to retrieve settings of Line Lock Vertical Phase Adjustment.

S T X	0x02
C M D 1	0x30
C M D 2	0x65
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Line Lock Vertical Phase Adjustment
E T X	0x03
B C C	Checksum

PARM

Line Lock Vertical Phase Adjustment (5 bytes) “-2048 ~ +2048”

Error:

Command Transmission Error : NAK

0x30, 0x66: Get Frame Lock Horizontal Phase Adjustment

This command is used to retrieve settings of Frame Lock Horizontal Phase Adjustment.

S T X	0x02
C M D 1	0x30
C M D 2	0x66
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Frame Lock Horizontal Phase Adjustment
E T X	0x03
B C C	Checksum

PARM

Frame Lock Horizontal Phase Adjustment (4 bytes) "-999 ~ +999"

Error:

Command Transmission Error : NAK

0x30, 0x67: Get Frame Lock Vertical Phase Adjustment

This command is used to retrieve settings of Frame Lock Vertical Phase Adjustment.

S T X	0x02
C M D 1	0x30
C M D 2	0x67
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Frame Lock Vertical Phase Adjustment
E T X	0x03
B C C	Checksum

PARM

Frame Lock Vertical Phase Adjustment (5 bytes) "-2048 ~ +2048"

Error:

Command Transmission Error : NAK

0x30, 0x68: Get Output Video Level

This command is used to retrieve settings of Output Video Level.
(It is effective only when analog signal is output.)

S T X	0x02
C M D 1	0x30
C M D 2	0x68
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Output Video Level
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (11 bytes)

Output Video Level (R)	3 bytes: "-10 ~ +10" %
","	1 byte: 0x2C
Output Video Level (G)	3 bytes: "-10 ~ +10" %
","	1 byte: 0x2C
Output Video Level (B)	3 bytes: "-10 ~ +10" %

Error:

Command Transmission Error : NAK

0x30, 0x69: Get Output Sync Type

This command is used to retrieve settings of Output Sync Type.
(It is effective only when analog signal is output.)

S T X	0x02
C M D 1	0x30
C M D 2	0x69
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Output Sync Type
E T X	0x03
B C C	Checksum

PARM

Output Sync Type (1 byte) '0': HS/VS '1': CS '2': Tri-Level CS

Error:

Command Transmission Error : NAK

0x30, 0x6A: Get Output Sync ON

This command is used to retrieve settings of Output Sync ON.
(It is effective only when analog signal is output.)

S T X	0x02
C M D 1	0x30
C M D 2	0x6A
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Output Sync ON
E T X	0x03
B C C	Checksum

PARM

Output Sync ON (1 byte) '0': OFF '1': Gon '2': RGBon

Error:

Command Transmission Error : NAK

0x30, 0x6B: Get Output Sync Level

This command is used to retrieve settings of Output Sync Level.
(It is effective only when analog signal is output.)

S T X	0x02
C M D 1	0x30
C M D 2	0x6B
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Output Sync Level
E T X	0x03
B C C	Checksum

PARM

Output Sync Level (1 byte) '0': Analog '1': TTL

Error:

Command Transmission Error : NAK

0x30, 0x6C: Get Test Pattern

This command is used to retrieve settings of Test Pattern.

S T X	0x02
C M D 1	0x30
C M D 2	0x6C
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Test Pattern
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (9 bytes)

Test Pattern	1 byte: “0 ~ 8” *
","	1 byte: 0x2C
Inversion	1 byte: ‘0’: No ‘1’: Yes
","	1 byte: 0x2C
R ON/OFF	1 byte: ‘0’: OFF ‘1’: ON
","	1 byte: 0x2C
G ON/OFF	1 byte: ‘0’: OFF ‘1’: ON
","	1 byte: 0x2C
B ON/OFF	1 byte: ‘0’: OFF ‘1’: ON

*Test Pattern ‘0’: OFF ‘1’: Cross Hatch ‘2’: Burst ‘3’: Clor Bars
‘4’: Circles ‘5’: Cross ‘6’: Ramp ‘7’: External Frame
‘8’: External Frame + Cross + Circles

Error:

Command Transmission Error : NAK

0x30, 0x6D: Get Output Brightness

This command is used to retrieve settings of Output Brightness.

S T X	0x02
C M D 1	0x30
C M D 2	0x6D
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Output Brightness
E T X	0x03
B C C	Checksum

PARM

Output Brightness (3 bytes) "-15 ~ +15"

Error:

Command Transmission Error : NAK

0x30, 0x6E: Get Output Contrast

This command is used to retrieve settings of Output Contrast.

S T X	0x02
C M D 1	0x30
C M D 2	0x6E
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Output Contrast
E T X	0x03
B C C	Checksum

PARM

Output Contrast (3 bytes) "-10 ~ +10" %

Error:

Command Transmission Error : NAK

0x30, 0x6F: Get Output Color

This command is used to retrieve settings of Output Color.
(It is effective only when analog signal is output.)

S T X	0x02
C M D 1	0x30
C M D 2	0x6F
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Output Color
E T X	0x03
B C C	Checksum

PARM

Output Color (3 bytes) "-10 ~ +10" %

Error:

Command Transmission Error : NAK

0x30, 0x70: Get Output Gamma Correction Mode

This command is used to retrieve settings of Output Gamma Correction Mode.

S T X	0x02
C M D 1	0x30
C M D 2	0x70
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Output Gamma Correction Mode
E T X	0x03
B C C	Checksum

PARM

Output Gamma Correction Mode (1 byte) "0 ~ 3"

Error:

Command Transmission Error : NAK

0x30, 0x71: Get Output Gamma Correction Value

This command is used to retrieve settings of Output Gamma Correction Value.

S T X	0x02
C M D 1	0x30
C M D 2	0x71
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Output Gamma Correction Value
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (8 bytes)

Output Gamma Correction Value (R)	2 bytes: “10 ~ 30”
","	1 byte: 0x2C
Output Gamma Correction Value (G)	2 bytes: “10 ~ 30”
","	1 byte: 0x2C
Output Gamma Correction Value (B)	2 bytes: “10 ~ 30”

Error:

Command Transmission Error : NAK

0x30, 0x72: Get Output Color Space

This command is used to retrieve settings of Output Color Space.
(It is effective only when analog signal is output.)

S T X	0x02
C M D 1	0x30
C M D 2	0x72
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Output Color Space
E T X	0x03
B C C	Checksum

PARM

Output Color Space (1 byte) ‘0’: RGB ‘1’: SMPTE-125M ‘2’: SMPTE-240M
‘3’: SMPTE-274M ‘4’: SMPTE-296M

Error:

Command Transmission Error : NAK

0x30, 0x74: Get Display Type

This command is used to retrieve settings of Display Type.
(It is not available in the SC-2040 series.)

S T X	0x02
C M D 1	0x30
C M D 2	0x74
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Display Type
E T X	0x03
B C C	Checksum

PARM

Display Type (1 byte) '0': USER '1': DLP '2': LCD '3': CRT

Error:

Command Transmission Error : NAK

0x30, 0x75: Get Link Mode

This command is used to retrieve settings of Link Mode.

S T X	0x02
C M D 1	0x30
C M D 2	0x75
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Link Mode
E T X	0x03
B C C	Checksum

PARM

Link Mode (1 byte) '0': OFF '1': Master '2': Slave

Error:

Command Transmission Error : NAK

0x30, 0x77: Get OSD Arbitrary Character Display ON/OFF

This command is used to retrieve ON/OFF settings of OSD Arbitrary Character Display.

S T X	0x02
C M D 1	0x30
C M D 2	0x77
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	OSD Arbitrary Character Display ON/OFF
E T X	0x03
B C C	Checksum

PARM

OSD Arbitrary Character Display ON/OFF (1 byte) '0': OFF '1': ON

Error:

Command Transmission Error : NAK

0x30, 0x78: Get OSD Arbitrary Character Data

This command is used to retrieve settings of OSD Arbitrary Character Data.

S T X	0x02
C M D 1	0x30
C M D 2	0x78
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	OSD Arbitrary Character Data
E T X	0x03
B C C	Checksum

PARM

OSD Arbitrary Character Data (8 bytes) 8 characters

Error:

Command Transmission Error : NAK

0x30, 0x79: Get Output Sync Polarity

This command is used to retrieve settings of Output Sync Polarity.

S T X	0x02
C M D 1	0x30
C M D 2	0x79
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Output Sync Polarity
E T X	0x03
B C C	Checksum

PARM

Output Sync Type (1 byte) '0': Negative Polarity '1': Positive Polarity

Error:

Command Transmission Error : NAK

0x30, 0x80: Get Frame Display

This command is used to retrieve settings of Frame Display.

S T X	0x02
C M D 1	0x30
C M D 2	0x80
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (4 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ‘00’: Current Mask Table No.
","	1 byte: 0x2C
Window No.	1 byte: “1 ~ 4”

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Frame Display
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (6 bytes)

Mask Table No.	2 bytes: “01 ~ 50”
","	1 byte: 0x2C
Window No.	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Frame Display	1 byte: ‘0’: OFF ‘1’: ON

Error:

Command Transmission Error : NAK

0x30, 0x81: Get Frame Color

This command is used to retrieve settings of Frame Color.

S T X	0x02
C M D 1	0x30
C M D 2	0x81
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Mask Table No. “00 ~ 50” (2 bytes) ‘00’: Current Mask Table No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Frame Color
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (4 bytes)

Mask Table No.	2 bytes: “01 ~ 50”
","	1 byte: 0x2C
Frame Color	1 byte: “0 ~ 7”

Frame Color (1 byte) ‘0’: Black ‘1’: Red ‘2’: Green ‘3’: Yellow
‘4’: Blue ‘5’: Magenta ‘6’: Cyan ‘7’: White

Error:

Command Transmission Error : NAK

0x30, 0x82: Get Window Preference Order

This command is used to retrieve settings Window Preference Order.
(It is not available in the SC-2040 series.)

S T X	0x02
C M D 1	0x30
C M D 2	0x82
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (4 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ‘00’: Current Mask Table No.
","	1 byte: 0x2C
Window No.	1 byte: “1 ~ 4”

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Window Preference Order
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (6 bytes)

Mask Table No.	2 bytes: “01 ~ 50”
","	1 byte: 0x2C
Window No.	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window Preference Order	1 byte: “1 ~ 4”

Error:

Command Transmission Error : NAK

0x30, 0x85: Get Display ON/OFF

This command is used to retrieve settings of Display ON/OFF.

S T X	0x02
C M D 1	0x30
C M D 2	0x85
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (4 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ‘00’: Current Mask Table No.
","	1 byte: 0x2C
Window No.	1 byte: “1 ~ 4”

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Display ON/OFF
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (6 bytes)

Mask Table No.	2 bytes: “01 ~ 50”
","	1 byte: 0x2C
Window No.	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Display ON/OFF	1 byte: ‘0’: OFF ‘1’: ON

Error:

Command Transmission Error : NAK

0x30, 0x86: Get Window Input Start and End Coordinates

This command is used to retrieve settings Window Input Start and End Coordinates.

S T X	0x02
C M D 1	0x30
C M D 2	0x86
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (4 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ‘00’: Current Mask Table No.
","	1 byte: 0x2C
Window No.	1 byte: “1 ~ 4”

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Window Input Start and End Coordinates
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (30 bytes)

Mask Table No.	2 bytes: “01 ~ 50”
","	1 byte: 0x2C
Window No.	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window Input Start X Coordinate	5 bytes: “00000 ~ 99999” × 1/1000 %
","	1 byte: 0x2C
Window Input Start Y Coordinate	5 bytes: “00000 ~ 99999” × 1/1000 %
","	1 byte: 0x2C
Window Input End X Coordinate	6 bytes: “000001 ~ 100000” × 1/1000 %
","	1 byte: 0x2C
Window Input End Y Coordinate	6 bytes: “000001 ~ 100000” × 1/1000 %

* Coordinate values are returned when Dot Setting Mode is ON. (4 bytes each)

Error:

Command Transmission Error : NAK

0x30, 0x87: Get Window Output Start and End Coordinates

This command is used to retrieve settings Window Output Start and End Coordinates.

S T X	0x02
C M D 1	0x30
C M D 2	0x87
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (4 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ‘00’: Current Mask Table No.
","	1 byte: 0x2C
Window No.	1 byte: “1 ~ 4”

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Window Output Start and End Coordinates
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (30 bytes)

Mask Table No.	2 bytes: “01 ~ 50”
","	1 byte: 0x2C
Window No.	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window Output Start X Coordinate	5 bytes: “00000 ~ 99999” ×1/1000 %
","	1 byte: 0x2C
Window Output Start Y Coordinate	5 bytes: “00000 ~ 99999” ×1/1000 %
","	1 byte: 0x2C
Window Output End X Coordinate	6 bytes: “000001 ~ 100000” ×1/1000 %
","	1 byte: 0x2C
Window Output End Y Coordinate	6 bytes: “000001 ~ 100000” ×1/1000 %

* Coordinate values are returned when Dot Setting Mode is ON. (4 bytes each)

Error:

Command Transmission Error : NAK

0x30, 0x88: Get Window Display Start and End Coordinates

This command is used to retrieve settings Window Display Start and End Coordinates.

S T X	0x02
C M D 1	0x30
C M D 2	0x88
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (4 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ‘00’: Current Mask Table No.
","	1 byte: 0x2C
Window No.	1 byte: “1 ~ 4”

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Window Display Start and End Coordinates
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (30 bytes)

Mask Table No.	2 bytes: “01 ~ 50”
","	1 byte: 0x2C
Window No.	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window Display Start X Coordinate	5 bytes: “00000 ~ 99999” ×1/1000 %
","	1 byte: 0x2C
Window Display Start Y Coordinate	5 bytes: “00000 ~ 99999” ×1/1000 %
","	1 byte: 0x2C
Window Display End X Coordinate	6 bytes: “000001 ~ 100000” ×1/1000 %
","	1 byte: 0x2C
Window Display End Y Coordinate	6 bytes: “000001 ~ 100000” ×1/1000 %

* Coordinate values are returned when Dot Setting Mode is ON. (4 bytes each)

Error:

Command Transmission Error : NAK

0x30, 0x89: Get Output Display Start and End Coordinates

This command is used to retrieve settings of Output Display Start and End Coordinates.

S T X	0x02
C M D 1	0x30
C M D 2	0x89
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Mask Table No. “00 ~ 50” (2 bytes) ‘00’: Current Mask Table No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Output Display Start and End Coordinates
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (28 bytes)

Mask Table No.	2 bytes: “01 ~ 50”
","	1 byte: 0x2C
Output Display Start X Coordinate	5 bytes: “00000 ~ 99999” ×1/1000 %
","	1 byte: 0x2C
Output Display Start Y Coordinate	5 bytes: “00000 ~ 99999” ×1/1000 %
","	1 byte: 0x2C
Output Display End X Coordinate	6 bytes: “000001 ~ 100000” ×1/1000 %
","	1 byte: 0x2C
Output Display End Y Coordinate	6 bytes: “000001 ~ 100000” ×1/1000 %

* Coordinate values are returned when Dot Setting Mode is ON. (4 bytes each)

Error:

Command Transmission Error : NAK

0x30, 0x8A: Get Base Display ON/OFF

This command is used to retrieve settings Base Display ON/OFF.
(This command is effective only when base input is present.)

S T X	0x02
C M D 1	0x30
C M D 2	0x8A
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Mask Table No. “00 ~ 50” (2 bytes) ‘00’: Current Mask Table No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Base Display ON/OFF
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (4 bytes)

Mask Table No.	2 bytes: “01 ~ 50”
","	1 byte: 0x2C
Base Display ON/OFF	1 byte: ‘0’: OFF ‘1’: ON

Error:

Command Transmission Error : NAK

0x30, 0x8B: Get Base Color

This command is used to retrieve settings of Base Color.

S T X	0x02
C M D 1	0x30
C M D 2	0x8B
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Mask Table No. “00 ~ 50” (2 bytes) ‘00’: Current Mask Table No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Base Color
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (4 bytes)

Mask Table No.	2 bytes: “01 ~ 50”
","	1 byte: 0x2C
Base Color	1 byte: “0 ~ 7”

Base Color (1 byte) ‘0’: Black ‘1’: Red ‘2’: Green ‘3’: Yellow
‘4’: Blue ‘5’: Magenta ‘6’: Cyan ‘7’: White

Error:

Command Transmission Error : NAK

0x30, 0x8C: Get Window Zoom Data

This command is used to retrieve settings of Window Zoom Data.

S T X	0x02
C M D 1	0x30
C M D 2	0x8C
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (4 bytes)

Mask Table No.	2 bytes: “00 ~ 50” ‘00’: Current Mask Table No.
","	1 byte: 0x2C
Window No.	1 byte: “1 ~ 4”

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Window Zoom Data
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (56 bytes)

Mask Table No.	2 bytes: “01 ~ 50”
","	1 byte: 0x2C
Window No.	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window Input Start X Coordinate	5 bytes: “00000 ~ 99999” × 1/1000 %
","	1 byte: 0x2C
Window Input Start Y Coordinate	5 bytes: “00000 ~ 99999” × 1/1000 %
","	1 byte: 0x2C
Window Input End X Coordinate	6 bytes: “000001 ~ 100000” × 1/1000 %
","	1 byte: 0x2C
Window Input End Y Coordinate	6 bytes: “000001 ~ 100000” × 1/1000 %
","	1 byte: 0x2C
Window Output Start X Coordinate	5 bytes: “00000 ~ 99999” × 1/1000 %
","	1 byte: 0x2C
Window Output Start Y Coordinate	5 bytes: “00000 ~ 99999” × 1/1000 %
","	1 byte: 0x2C
Window Output End X Coordinate	6 bytes: “000001 ~ 100000” × 1/1000 %
","	1 byte: 0x2C
Window Output End Y Coordinate	6 bytes: “000001 ~ 100000” × 1/1000 %

* Coordinate values are returned when Dot Setting Mode is ON. (4 bytes each)

Error:

Command Transmission Error : NAK

0x30, 0x8D: Get Key Composition ON/OFF

This command is used to retrieve settings of Key Composition ON/OFF.
(This command is effective only when base input is present.)

S T X	0x02
C M D 1	0x30
C M D 2	0x8D
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Mask Table No. “00 ~ 50” (2 bytes) ‘00’: Current Mask Table No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Key Composition ON/OFF
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (4 bytes)

Mask Table No.	2 bytes: “01 ~ 50”
","	1 byte: 0x2C
Key Composition ON/OFF	1 byte: ‘0’: OFF, ‘1’: ON

Error:

Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x30, 0x8E: Get Key Composition Data

This command is used to retrieve settings of Key Composition Data.
(This command is effective only when base input is present.)

S T X	0x02
C M D 1	0x30
C M D 2	0x8E
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Mask Table No. “00 ~ 50” (2 bytes) ‘00’: Current Mask Table No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Key Composition Data
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (12 bytes)

Mask Table No.	2 bytes: “01 ~ 50”
","	1 byte: 0x2C
Key Level	3 bytes: “000 ~ 100” %
","	1 byte: 0x2C
Transparency	3 bytes: “000 ~ 100” %
","	1 byte: 0x2C
Key Inversion	1 byte: ‘0’: OFF ‘1’: ON

Error:

Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x30, 0x8F: Get Mask Table Name

This command is used to retrieve settings of Mask Table Name.

S T X	0x02
C M D 1	0x30
C M D 2	0x8F
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Mask Table No. “00 ~ 50” (2 bytes) ‘00’: Current Mask Table No.

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Mask Table Name
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (11 bytes)

Mask Table No.	2 bytes: “01 ~ 50”
","	1 byte: 0x2C
Mask Table Name	8 bytes: 8 characters

Error:

Command Transmission Error : NAK

0x30, 0x91: Get LUT Data

This command is used to retrieve settings of LUT Data.

S T X	0x02
C M D 1	0x30
C M D 2	0x91
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (5 bytes)

LUT Data Table No.	1 byte: “1 ~ 5”
","	1 byte: 0x2C
Color	1 byte: ‘0’: R ‘1’: G ‘2’: B
","	1 byte: 0x2C
Address Range	1 byte: “0 ~ 1”

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	LUT Data
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (517 bytes)

LUT Data Table No.	1 byte: “1 ~ 5”
","	1 byte: 0x2C
Color	1 byte: ‘0’: R ‘1’: G ‘2’: B
","	1 byte: 0x2C
Address Range	1 byte: “0 ~ 1”
","	1 byte: 0x2C
Address 0	3 bytes: “000 ~ 255”
","	1 byte: 0x2C
Address 1	3 bytes: “000 ~ 255”
• •	
Address 126	3 bytes: “000 ~ 255”
","	1 byte: 0x2C
Address 127	3 bytes: “000 ~ 255”

Error:

Command Transmission Error : NAK

0x30, 0xB0: Get Multi-Screen Configuration

This command is used to retrieve settings of Multi-Screen Configuration.

S T X	0x02
C M D 1	0x30
C M D 2	0xB0
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Multi-Screen Configuration
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (5 bytes)

Number in X Direction	2 bytes: “01 ~ 10”
","	1 byte: 0x2C
Number in Y Direction	2 bytes: “01 ~ 10”

Error:

Command Transmission Error : NAK

0x30, 0xB1: Multi-Screen Address

This command is used to retrieve settings of Multi-Screen Address.

S T X	0x02
C M D 1	0x30
C M D 2	0xB1
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Multi-Screen Address
E T X	0x03
B C C	Checksum

PARM

Multi-Screen Address (3 bytes) “001 ~ 100”

Error:

Command Transmission Error : NAK

0x30, 0xB2: Get Virtual Coordinate Mode

This command is used to retrieve settings of Virtual Coordinate Mode.

S T X	0x02
C M D 1	0x30
C M D 2	0xB2
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Virtual Coordinate Mode
E T X	0x03
B C C	Checksum

PARM

Virtual Coordinate Mode (1 byte) '0': OFF '1': ON

Error:

Command Transmission Error : NAK

0x30, 0xB3: Get Dot Setting Mode

This command is used to retrieve settings of Dot Setting Mode.

S T X	0x02
C M D 1	0x30
C M D 2	0xB3
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Dot Setting Mode
E T X	0x03
B C C	Checksum

PARM

Dot Setting Mode (1 byte) '0': OFF '1': ON

Error:

Command Transmission Error : NAK

0x30, 0xE4: Get Model Name and Version

This command is used to retrieve the model name and the version of a device.

S T X	0x02
C M D 1	0x30
C M D 2	0xE4
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Model Name and Version
E T X	0x03
B C C	Checksum

PARM

Data is returned as follows: (19 bytes)

Model Name	10 bytes: 10 ASCII Characters
","	1 byte: 0x2C
Version	8 bytes: 8 ASCII Characters

*Example of model name to be received: "SC-2040□□□"
*Example of version data to be received: "Ver.1.00"

Note:	"□" indicates an input of a space.

Error:

Command Transmission Error : NAK

0x30, 0xF1: Get Current Input Timing Table No.

This command is used to retrieve settings of current Input Timing Table No.

S T X	0x02
C M D 1	0x30
C M D 2	0xF1
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Window No. “1 ~ 4” (1 byte)

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Input Timing Table No.
E T X	0x03
B C C	Checksum

PARM

Following data is returned (11 bytes):

Input Timing Table No.	3 bytes: “001 ~ 100”
","	1 byte: 0x2C
Input Timing Table Name	8 bytes: 8 characters *

* Input Timing Table Name will be of 8 characters that are set with in the range: “0x20 (‘□’)~ 0x7A (‘z’)”

Note:	“□” indicates an input of a space.

Error:

Command Transmission Error	: NAK
Execution Error	: EXEC_ERR

- Execution Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

0x30, 0xF2: Get Input Signal Sync Status

This command is used to retrieve sync status of current input signal.

S T X	0x02
C M D 1	0x30
C M D 2	0xF2
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Window No. “1 ~ 4” (1 byte)

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Input Signal Sync Status
E T X	0x03
B C C	Checksum

PARM

Value Set (1 byte): ‘0’: None ‘1’: Detected ‘2’: Input Sync Signal Error

- Input Sync Signal Error is returned upon input signal sync error while Input Signal Search Mode is set to automatic search.

Error:

Command Transmission Error : NAK

0x30, 0xF3: Get Number of Windows

This command is used to retrieve settings of Number of Windows.

S T X	0x02
C M D 1	0x30
C M D 2	0xF2
E T X	0x03
B C C	Checksum

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Number of Windows
E T X	0x03
B C C	Checksum

PARM

Number of Windows (1 byte) “1 ~ 4”

Error:

Command Transmission Error : NAK

8.3 Screen Effect Commands

0x40, 0x20: Set Fade Level

This command is used to provide settings for Fade Level.

S T X	0x02
C M D 1	0x40
C M D 2	0x20
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (7~25 bytes)

Number of Windows to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	Specify this part once for each individual window.
Window to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	
Fade Level	3 bytes: “000 ~ 100” %	

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x40, 0x21: Set Fade IN/OUT

This command is used to provide settings for Fade IN/OUT.

S T X	0x02
C M D 1	0x40
C M D 2	0x21
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (13~49 bytes)

Number of Windows to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	
Window to Set	1 byte: “1 ~ 4”	Specify this part once for each individual window.
","	1 byte: 0x2C	
Fade In or Out	1 byte: ‘0’: IN ‘1’: OUT	
","	1 byte: 0x2C	
Time (Minutes)	2 bytes: “00 ~ 99”	
","	1 byte: 0x2C	
Time (Seconds)	2 bytes: “00 ~ 99”	
","	1 byte: 0x2C	
Time (0.1 Seconds)	1 byte: “0 ~ 9”	

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x40, 0x22: Set Arbitrary Level Fade IN/OUT

This command is used to provide settings for Arbitrary Level Fade IN/OUT.

S T X	0x02
C M D 1	0x40
C M D 2	0x22
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (19~73 bytes)

Number of Windows to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Starting Fade Level	3 bytes: “000 ~ 100” %
","	1 byte: 0x2C
Ending Fade Level	3 bytes: “000 ~ 100” %
","	1 byte: 0x2C
Time (Minutes)	2 bytes: “00 ~ 99”
","	1 byte: 0x2C
Time (Seconds)	2 bytes: “00 ~ 99”
","	1 byte: 0x2C
Time (0.1 Seconds)	1 byte: “0 ~ 9”

Specify this part once for each individual window.

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x40, 0x23: Fade IN/OUT Execution Control

This command is used to control execution under Fade IN/OUT settings.

S T X	0x02
C M D 1	0x40
C M D 2	0x23
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (5~17 bytes)

Number of Windows to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	Specify this part once for each individual window.
Window to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	
Execution Control	1 byte: “0 ~ 2”	

- Execution Control: ‘0’: Hold ‘1’: Do/Redo ‘2’: Reverse
  Hold : Use this parameter to temporarily hold the Fade action.
  Do/Redo : Use this parameter to redo the Fade action that was temporarily put on hold.
  Reverse : Use this parameter to reverse the direction (IN or OUT) of Fade action.

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x40, 0x40: Set Window Wipe

This command is used to set effects of Window Wipe.

S T X	0x02
C M D 1	0x40
C M D 2	0x40
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

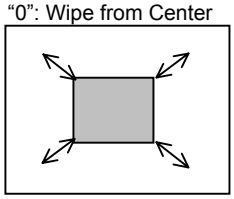
Change Specification (16~61 byte)

Number of Windows to Set	1 byte: "1 ~ 4"
","	1 byte: 0x2C
Window to Set	1 byte: "1 ~ 4"
","	1 byte: 0x2C
Type of Wipe	2 bytes: "00 ~ 10"
","	1 byte: 0x2C
Wipe In or Out	1 byte: '0': IN '1': OUT
","	1 byte: 0x2C
Time (Minutes)	2 bytes: "00 ~ 99"
","	1 byte: 0x2C
Time (Seconds)	2 bytes: "00 ~ 99"
","	1 byte: 0x2C
Time (0.1 Seconds)	1 byte: "0 ~ 9"

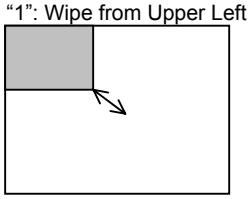
Specify this part once for each individual window.

Types of Wipe

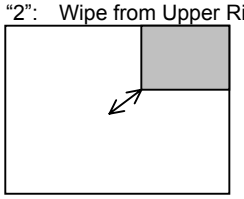
"0": Wipe from Center



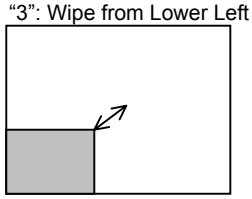
"1": Wipe from Upper Left



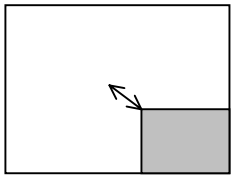
"2": Wipe from Upper Right



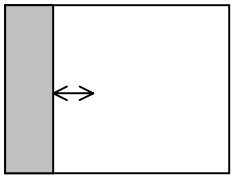
"3": Wipe from Lower Left



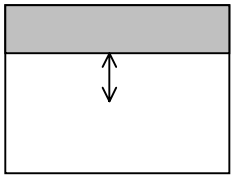
"4": Wipe from Lower Right



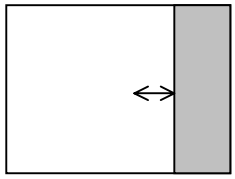
"5": Wipe from Left



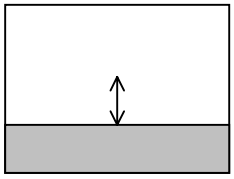
"6": Wipe from Top



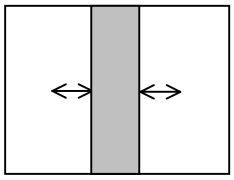
"7": Wipe from Right



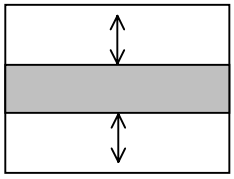
"8": Wipe from Bottom



"9": Wipe to Left and Right



"10": Wipe to Top and Bottom



Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x40, 0x42: Set Window Zoom

This command is used to set effects of Window Zoom.

S T X	0x02
C M D 1	0x40
C M D 2	0x42
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

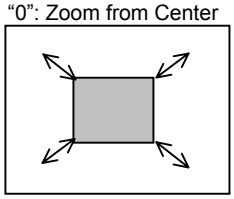
Change Specification (16~61 bytes)

Number of Windows to Set	1 byte: "1 ~ 4"
","	1 byte: 0x2C
Window to Set	1 byte: "1 ~ 4"
","	1 byte: 0x2C
Type of Zoom	2 bytes: "00 ~ 10"
","	1 byte: 0x2C
Zoom In or Out	1 byte: '0': IN '1': OUT
","	1 byte: 0x2C
Time (Minutes)	2 bytes: "00 ~ 99"
","	1 byte: 0x2C
Time (Seconds)	2 bytes: "00 ~ 99"
","	1 byte: 0x2C
Time (0.1 Seconds)	1 byte: "0 ~ 9"

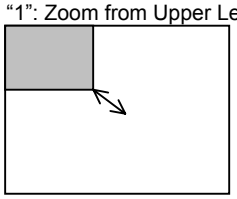
Specify this part once for each individual window.

Types of Zoom

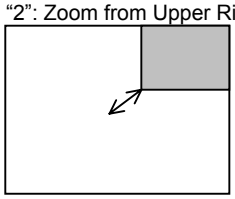
"0": Zoom from Center



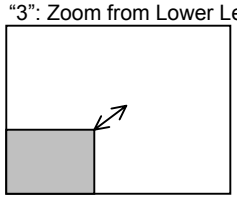
"1": Zoom from Upper Left



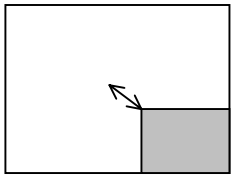
"2": Zoom from Upper Right



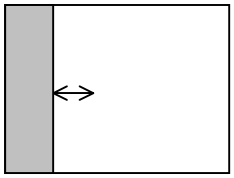
"3": Zoom from Lower Left



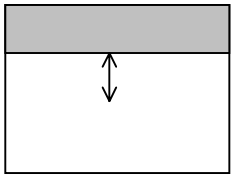
"4": Zoom from Lower Right



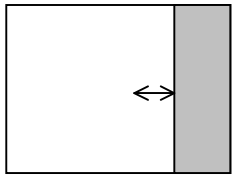
"5": Zoom from Left



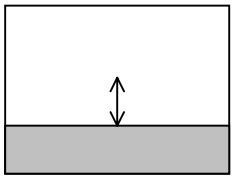
"6": Zoom from Top



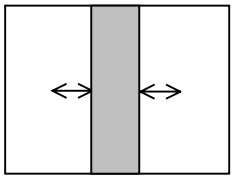
"7": Zoom from Right



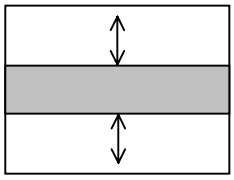
"8": Zoom from Bottom



"9": Zoom to Left and Right



"10": Zoom to Top and Bottom



Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x40, 0x43: Window Wipe Execution Control

This command is used to control execution under Window Wipe settings.

S T X	0x02
C M D 1	0x40
C M D 2	0x43
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (5~17 bytes)

Number of Windows to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	Specify this part once for each individual window.
Window to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	
Execution Control	1 byte: “0 ~ 2”	

- Execution Control: ‘0’: Hold ‘1’: Do/Redo ‘2’: Reverse
  - Hold : Use this parameter to temporarily hold the wipe action.
  - Do/Redo : Use this parameter to execute a wipe action or redo a wipe action that was temporarily put on hold.
  - Reverse : Use this parameter to reverse the direction (IN or OUT) of wipe action.

Value Returned from TERA

- Execution Successful : ACK
- Command Transmission Error : NAK
- Parameter Error : PARM_ERR

0x40, 0x45: Window Zoom Execution Control

This command is used to control execution under Window Zoom settings.

S T X	0x02
C M D 1	0x40
C M D 2	0x45
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (5~17 bytes)

Number of Windows to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	
Window to Set	1 byte: “1 ~ 4”	Specify this part once for each individual window.
","	1 byte: 0x2C	
Execution Control	1 byte: “0 ~ 2”	

- Execution Control: ‘0’: Hold ‘1’: Do/Redo 2’: Reverse
  - Hold : Use this parameter to temporarily hold the zoom action.
  - Redo : Use this parameter to redo the zoom action that was temporarily put on hold.
  - Reverse : Use this parameter to reverse the direction (IN or OUT) of zoom action.

Value Returned from TERA

- Execution Successful : ACK
- Command Transmission Error : NAK
- Parameter Error : PARM_ERR

0x40, 0x47: Set Window Zoom of Arbitrary Coordinates and Size

This command provides settings for arbitrary coordinates and size for Window Zoom.

S T X	0x02
C M D 1	0x40
C M D 2	0x47
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (63~249 bytes)

Number of Windows to Set	1 byte: “1 ~ 4”	Specify this part once for each individual window.
","	1 byte: 0x2C	
Window to Set	1 byte: “1 ~ 4”	
","	1 byte: 0x2C	
Start X Coordinate	5 bytes: “00000 ~ 99999”	
","	1 byte: 0x2C	
Start Y Coordinate	5 bytes: “00000 ~ 99999”	
","	1 byte: 0x2C	
Start X Size	6 bytes: “000001 ~ 100000”	
","	1 byte: 0x2C	
Start Y Size	6 bytes: “000001 ~ 100000”	
","	1 byte: 0x2C	
End X Coordinate	5 bytes: “00000 ~ 99999”	
","	1 byte: 0x2C	
End Y Coordinate	5 bytes: “00000 ~ 99999”	
","	1 byte: 0x2C	
End X Size	6 bytes: “000001 ~ 100000”	
","	1 byte: 0x2C	
End Y Size	6 bytes: “000001 ~ 100000”	
","	1 byte: 0x2C	
Time (Minutes)	2 bytes: “00 ~ 99”	
","	1 byte: 0x2C	
Time (Seconds)	2 bytes: “00 ~ 99”	
","	1 byte: 0x2C	
Time (0.1 Seconds)	1 byte: “0 ~ 9”	

Value Returned from TERA

Execution Successful	: ACK
Command Transmission Error	: NAK
Parameter Error	: PARM_ERR

0x40, 0x48: Set Window Wipe of Arbitrary Coordinates and Size

This command provides settings for arbitrary coordinates and size for Window Wipe.

S T X	0x02
C M D 1	0x40
C M D 2	0x48
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Change Specification (63~249 bytes)

Number of Windows to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Window to Set	1 byte: “1 ~ 4”
","	1 byte: 0x2C
Start X Coordinate	5 bytes: “00000 ~ 99999”
","	1 byte: 0x2C
Start Y Coordinate	5 bytes: “00000 ~ 99999”
","	1 byte: 0x2C
Start X Size	6 bytes: “000001 ~ 100000”
","	1 byte: 0x2C
Start Y Size	6 bytes: “000001 ~ 100000”
","	1 byte: 0x2C
End X Coordinate	5 bytes: “00000 ~ 99999”
","	1 byte: 0x2C
End Y Coordinate	5 bytes: “00000 ~ 99999”
","	1 byte: 0x2C
End X Size	6 bytes: “000001 ~ 100000”
","	1 byte: 0x2C
End Y Size	6 bytes: “000001 ~ 100000”
","	1 byte: 0x2C
Time (Minutes)	2 bytes: “00 ~ 99”
","	1 byte: 0x2C
Time (Seconds)	2 bytes: “00 ~ 99”
","	1 byte: 0x2C
Time (0.1 Seconds)	1 byte: “0 ~ 9”

Specify this part once for each individual window.

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x40, 0x4F: Set Screen Effect Operation Control

This command is used to control execution of screen effect commands.
It is used when executing a screen effect command against multiple windows simultaneously.

S T X	0x02
C M D 1	0x40
C M D 2	0x4F
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM

Effect Control (1 byte) '0': Start Effect '1': Hold Effect

- The setting always returns to "0" upon powering up.
- Sending a screen effect command while the setting is "0" causes the command to be immediately executed.

Value Returned from TERA

Execution Successful : ACK
Command Transmission Error : NAK
Parameter Error : PARM_ERR

0x50, 0x20: Get Fade Level

This command is used to retrieve settings of Fade Level.

S T X	0x02
C M D 1	0x50
C M D 2	0x20
P A R M	Change Specification
E T X	0x03
B C C	Checksum

PARM Window No. "1 ~ 4" (1 byte)

Value Returned from SC

Normal:

S T X	0x02
T R D T	0x10
P A R M	Fade Level
E T X	0x03
B C C	Checksum

PARM

Fade Level (3 bytes) "000 ~ 100" %

Error:

Command Transmission Error : NAK
Parameter Error : PARM_ERR

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