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INSTEON

Command Tables

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Author: Paul Darbee

16542 Millikan Avenue, Irvine, CA 92606-5026 949-221-9200)

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Change Log

Date	Description	Author
20060508a	Separated from INSTEON Conformance Spec.	Paul Darbee
20060512a	Renamed required 0x11 **SA** command *ALL-Link Recall 1*.	Paul Darbee
20060515a	Renamed *Product Key Request / Response* as *Product Data Request / Response*.	Paul Darbee
20060516a	Added *Set ALL-Link Command Alias* **ED** Command.	Paul Darbee
20060517a	Added Set *ALL-Link Command Alias Extended Data* **ED** Command.	Paul Darbee
20060517a	Renamed *Enter Linking Mode* and *Enter Unlinking Mode* **SD** Commands.	Paul Darbee
20060519a	Renamed ALL-Link commands *ALL-Link Recall N*, with **SD** command defaults for lighting DevCats 0x01 and 0x02.	Paul Darbee
20060524a	Renamed *ALL-Link Recall 2-9* as *ALL-Link Alias 1-5 High/Low*.	Paul Darbee
20060526a	Underlined required DevCat-specific Direct commands.	Paul Darbee
20060530a	Reserved 0x0000 **SD** and **ED** commands.	Paul Darbee
20060602a	Updated *Ping* **SD** command description.	Paul Darbee
20060606a	Restored **SD** *Peek One Byte Internal* and *Poke One Byte Internal*.	Paul Darbee
20060607a	Updated document properties.	Paul Darbee
20060619a	Released for internal review.	Paul Darbee
20060715a	Renamed **SD** *Ping* as *ID Request*.	Paul Darbee
20060719a	Released as draft specification.	Paul Darbee
20060831a	Noted legacy device exception for **SA** commands **0x17** and **0x18**. Clarified *Command 2* field for **SA** commands. Rewrote Introduction. Changed requirement date for *INSTEON Product Key Request / Response* to 2/1/07.	Paul Darbee
20060913a	Added **SD 0x58** *Door Move* and **SD 0x59** *Door Status Report*	Paul Darbee
20060924a	Added **SD 0x60** *Window Covering* and **SD 0x61** *Window Covering Position*	Paul Darbee
20061018a	Added I/O Module commands **SD 0x46** through **SD 0x4F**, and **ED 0x4B** and **ED 0x4C**	Paul Darbee
20061019a	Added **SB 0x27** *Device Status Changed*	Paul Darbee
20061028a	Added **SB 0x03** *Test Powerline Phase*	Paul Darbee
20061028a	Added **SB 0x04** *Heartbeat*	Paul Darbee
20061028a	Added **SD 0x0D** *Get INSTEON Engine Version*	Paul Darbee
20061028a	Added **SD 0x0F** *Ping*	Paul Darbee
20061028a	Made **SD 0x19** *Light Status Request*, **SD 0x1F** *Get Operating Flags*, **SD 0x20** *Set Operating Flags*, and **ED 0x2E** *Extended Set/Get* SubCat-specific.	Paul Darbee
20061028a	Added **ED 0x2F** *Read/Write ALL-Link Database*.	Paul Darbee
20061028a	Added SubCat column to tables.	Paul Darbee
20061110a	Updated to reflect official command acceptance.	Paul Darbee
20061115a	Added **SD 0x4407** to **0x440F** *Sprinkler Control*. Moved **SD 0x48** to **0x4B** *Thermostat* Commands to **0x68** to **0x6B**	Paul Darbee
20061128a	Added **SD 0x6C** to **0x6F** *Thermostat* Commands Added **ED 0x68** to **0x6F** *Thermostat* Commands Added **SD 0x6B09** to **0x6B0D** *Thermostat* Commands	Paul Darbee
20061128a	Modified **SD 0x4D** and **0x4F** *I/O* Commands Added **SD 0x70** *Leak Detector Announce* Command	Paul Darbee
20061219a	Changed **SD 0x6B06** through **0x6B0E** Thermostat Commands to **0x6B07** through **0x6B0E** to remove duplicate **0x6B06** command	Paul Darbee
20070127a	Removed **SD 0x6E**, **SD 0x6F, ED 0x6E**, and **ED 0x6F** Thermostat Commands (these should be manufacturer-specific FX commands) Added **SD 0x6B0F** through **0x6B17** Thermostat Commands (set/get Temperature Units, set/get Fan-On Speed, enable/disable Status Changed broadcast)	Paul Darbee
20070127a	Added **SD 0x2008** and **0x2009** Lighting LED Off/On for DevCats 0x01 and 0x02. Added **SD 0x1F00 Bit 4** Lighting LED Status for DevCats 0x01 and 0x02.	Paul Darbee
20070205a	Defined arguments in **SD 0x68**, **0x69**, **0x6A**, **0x6C**, and **0x6D** as unsigned bytes.	Paul Darbee
20070501a	Corrected command number of **SD 0x25** (was erroneously listed as 0x26). Corrected Bits 4-7 of **SD 0x2E** to read *On-Level* + 0x0F (was + 1)	Paul Darbee
20070501a	Approved proposed commands	Paul Darbee
20070508a	Added Note Keys	Paul Darbee

Date	Description	Author
20070515a	Added **SD 0x45** *Flash LED*	Paul Darbee
20070619a	Added **ED 0x30** *Execute ALL-Link Command*. **ED 0x2E** for DevCat 01 returns *Signal-to-Noise Threshold* in D9. **ED 0x2F** D5 sets number of ALDB records to return.	Paul Darbee
20070717a	Updated **ED 0x30** *Trigger ALL-Link Command*.	Paul Darbee
20070810a	Removed KeypadLinc and KeypadLinc Relay **SD 0x1F02** to **0x1F06**, and **0x2Fxx** to **0x33xx**, added same functionality to **ED 0x2E00**. Added KeypadLinc and KeypadLinc Relay **SD 0x1F02** *Get Signal-to-Noise Value*.	Paul Darbee
20070814a	Made **ED 0x2F00** *Read/Write ALDB* required for i2.	Paul Darbee
20070924a	Added **SD 0x2Fxx** *Light OFF at Ramp Rate*.	Paul Darbee
20070925a	Added **SD 0x1F** *Get Operating Flags*, **SD 0x20** *Set Operating Flags*, and **ED 0x2E** *Extended Set/Get* for SmartLabs 2476ST SwitchLinc i2 Relay Countdown Timer. Checked and corrected bit senses for **SD 0x1F** *Get Operating Flags* and **SD 0x20** *Set Operating Flags* for other products.	Paul Darbee
20070927a	Modified **SD 0x20** *Set Operating Flagst* for SmartLabs 2473W OutletLinc to show default conditions.	Paul Darbee

1 Introduction

This document lists all currently defined INSTEON Commands in a collection of tables. SmartLabs maintains this document separately, not only to allow for frequent updating, but also because it forms an integral part of *two* larger documents, the *INSTEON Developer's Guide* and the *INSTEON Conformance Specification*. Please refer to those master documents for a thorough understanding of proper INSTEON command usage.

2 INSTEON Command Set Tables

The tables in the following six sections list all of the currently defined INSTEON Commands. The tables contain:

- **SD**, Standard-length Direct Commands
- **ED**, Extended-length Direct Commands
- **SA**, Standard-length ALL-Link Commands
- **EA**, Extended-length ALL-Link Commands
- **SB**, Standard-length Broadcast Commands
- **EB**, Extended-length Broadcast Commands

The tables utilize Note Keys, text conventions, and color-codes to designate the following conditions:

Note Key	Text Sample	Description
Req-All	**Enter Linking Mode**	Required Commands for INSTEON conformance
Req-Ex	(Required after 2/1/07)	Required Commands with exceptions
Req-DC	Light ON	Required Commands for specific DevCats
-	Light ON Fast	Optional Commands
DataTr	Peek One Byte	Data Transfer Commands
FX	FX Commands	FX Commands
-	Reserved	Reserved for future use, currently unassigned
Dupl	**0x45**	Duplicated command number definitions for different DevCats
Prop	**0x2F**	Proposed command does not yet have final approval
NClar	Get Temperature	Needs further clarification
Depr	Deprecated	Deprecated command—do not use in the future

2.1 INSTEON Direct Commands

This section lists **SD** Standard-length and **ED** Extended-length INSTEON Direct Commands in two separate tables.

2.1.1 INSTEON Standard-length Direct Commands

The table below lists the existing INSTEON **SD** Standard-length Direct Commands.

The Note Key **Req-All** denotes INSTEON commands that shall be supported by INSTEON devices in all Device Categories. **Req-All** command names appear in **bold type**.

The Note Key **Req-Ex** (…) denotes INSTEON commands that shall be supported by INSTEON devices in all Device Categories except as noted within the parentheses. **Req-Ex** command names appear in **bold type**.

The Note Key **Req-DC** denotes INSTEON commands that shall be supported only by those INSTEON devices in the Device Categories given in the **DevCat** and **SubCat** columns. **Req-DC** command names appear in underlined type.

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
Reserved			**0x00**	**0x00**	Must be undefined in all INSTEON devices because this is the default command to execute using **ED 0x0304** *Set ALL-Link Command Alias*
Reserved			**0x00**	**0x01⇒ 0xFF**	
Assign to ALL-Link Group	**All**	**All**	**0x01**	**0x00 ⇒ 0xFF** Group Number	**Req-All** Used during INSTEON device linking session.
Delete from ALL-Link Group	**All**	**All**	**0x02**	**0x00 ⇒ 0xFF** Group Number	**Req-All** Used during unlinking session.
Product Data Request	**All**	**All**	**0x03**	**0x00**	**Req-All, Req-Ex** (Required after 2/1/07) Addressee responds with an **ED 0x0300** *Product Data Response* message
FX Username Request	**All**	**All**	**0x03**	**0x01**	**Req-Ex** (Only required for devices that support FX Commands) , **FX** Addressee responds with an **ED 0x0301** *FX Username Response* message
Device Text String Request	**All**	**All**	**0x03**	**0x02**	Addressee responds with an **ED 0x0302** *Device Text String Response* message
Reserved			**0x03**	**0x03 ⇒ 0xFF**	
Reserved			**0x04 ⇒ 0x08**		
Enter Linking Mode	**All**	**All**	**0x09**	**0x00 ⇒ 0xFF** Group Number	**Req-All** Same as holding down *SET Button* for 10 seconds **NOTE:** Not supported by i1 devices
Enter Unlinking Mode	**All**	**All**	**0x0A**	**0x00 ⇒ 0xFF** Group Number	**Req-All** **NOTE:** Not supported by i1 devices
Reserved			**0x0B ⇒ 0x0C**		

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
Get INSTEON Engine Version	**All**	**All**	**0x0D**	**0x00**	**Req-All** Returned ACK message will contain the INSTEON Engine Version in Command 2. **0x00** = i1 (default echo for legacy devices) **0x01** = i2
Reserved			**0x0D**	**0x01 ⇒ 0xFF**	Do not use so that legacy devices will echo **0x00** in Command 2
Reserved			**0x0E**		
Ping	**All**	**All**	**0x0F**	**0x00** (**0x01 ⇒ 0xFF** Not Parsed in legacy devices. Use only 0x00 in the future.)	**Req-All** Addressee returns an ACK message but performs no operation.
ID Request	**All**	**All**	**0x10**	**0x00** (**0x01 ⇒ 0xFF** Not Parsed in legacy devices. Use only 0x00 in the future.)	**Req-All** Addressee first returns an ACK message, then it sends an **SB 0x01** *SET Button Pressed Responder* or **SB 0x02** *SET Button Pressed Controller* Broadcast message, but it does not enter Linking Mode.
Light ON	**0x01**	**All**	**0x11**	**0x00 ⇒ 0xFF** On-Level	**Req-DC** Go to *On-Level* at saved *Ramp Rate*
Light ON	**0x02**	**All**	**0x11**	**0x00 ⇒ 0xFF** Not Parsed	**Req-DC** Switch to full on
Light ON Fast	**0x01**	**All**	**0x12**	**0x00 ⇒ 0xFF** On-Level	Go to saved *On-Level* instantly
Light ON Fast	**0x02**	**All**	**0x12**	**0x00 ⇒ 0xFF** Not Parsed	Switch to full on
Light OFF	**0x01**	**All**	**0x13**	**0x00 ⇒ 0xFF** Not Parsed	**Req-DC** Go to full off at saved *Ramp Rate*
Light OFF	**0x02**	**All**	**0x13**	**0x00 ⇒ 0xFF** Not Parsed	**Req-DC** Switch to full off
Light OFF Fast	**0x01**	**All**	**0x14**	**0x00 ⇒ 0xFF** Not Parsed	Go to full off instantly
Light OFF Fast	**0x02**	**All**	**0x14**	**0x00 ⇒ 0xFF** Not Parsed	Switch to full off
Light Brighten One Step	**0x01**	**All**	**0x15**	**0x00 ⇒ 0xFF** Not Parsed	**Req-DC** Brighten one step. There are 32 steps from off to full brightness.
Light Dim One Step	**0x01**	**All**	**0x16**	**0x00 ⇒ 0xFF** Not Parsed	**Req-DC** Dim one step. There are 32 steps from off to full brightness.
Light Start Manual Change	**0x01**	**All**	**0x17**	Direction **0x00** Down **0x01** Up **0x02 ⇒ 0xFF** Unused	Begin changing *On-Level*.
Light Stop Manual Change	**0x01**	**All**	**0x18**	**0x00 ⇒ 0xFF** Not Parsed	Stop changing *On-Level*.
Light Status Request (SmartLabs 2486D KeypadLinc Dimmer, SmartLabs 2886D Icon In-Wall Controller)	**0x01**	**0x09** **0x0A**	**0x19**	**0x00**	Returned ACK message will contain the *On-Level* in Command 2. Command 1 will contain an *ALL-Link Database Delta* number that increments every time there is a change in the addressee's ALL-Link Database.
				0x01	Returned ACK message will contain the *LED Bit Flags* in Command 2. Command 1 will contain an *ALL-Link Database Delta* number that increments every time there is a change in the addressee's ALL-Link Database.

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**			**Note Keys, Description**
Light Status Request	**0x01**	**All But 0x09 0x0A**	**0x19**	**0x00** ⇒ **0xFF** Not Parsed			Returned ACK message will contain the *On-Level* in Command 2. Command 1 will contain an *ALL-Link Database Delta* number that increments every time there is a change in the addressee's ALL-Link Database.
Light Status Request (SmartLabs 2486S KeypadLinc Relay)	**0x02**	**0x0F**	**0x19**	**0x00**			Returned ACK message will contain the *On-Level* (**0x00** or **0xFF** only) in Command 2. Command 1 will contain an *ALL-Link Database Delta* number that increments every time there is a change in the addressee's ALL-Link Database.
				0x01			Returned ACK message will contain the *LED Bit Flags* in Command 2. Command 1 will contain an *ALL-Link Database Delta* number that increments every time there is a change in the addressee's ALL-Link Database.
Light Status Request	**0x02**	**All But 0x0F**	**0x19**	**0x00** ⇒ **0xFF** Not Parsed			Returned ACK message will contain the *On-Level* (**0x00** or **0xFF** only) in Command 2. Command 1 will contain an *ALL-Link Database Delta* number that increments every time there is a change in the addressee's ALL-Link Database.
Reserved			**0x1A** ⇒ **0x1E**				
Get Operating Flags (SmartLabs 2430 ControLinc and 2830 Icon Tabletop Controller)	**0x00**	**0x04 0x06**	**0x1F**	Flags Requested			Returned ACK message will contain the requested data in Command 2.
				0x00	Bit 0	0 = Program Lock Off	
						1 = Program Lock On	
					Bit 1	0 = LED Off	
						1 = LED Enabled	
					Bit 2	0 = Beeper Off	
						1 = Beeper Enabled	
					Bit 3-7 = Unused		
				0x01	*ALL-Link Database Delta* number		
				0x02 ⇒ **0xFF**	Unused		
Get Operating Flags (SmartLabs 2843 RemoteLinc)	**0x00**	**0x05**	**0x1F**	Flags Requested			Returned ACK message will contain the requested data in Command 2.
				0x00	Bit 0	0 = Program Lock Off	
						1 = Program Lock On	
					Bit 1	0 = LED Off	
						1 = LED Enabled	
					Bit 2	0 = Beeper Off	
						1 = Beeper Enabled	
					Bit 3	0 = Allow Sleep	
						1 = Stay Awake	
					Bit 4	0 = Allow Transmit	
						1 = Receive Only	

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**			**Note Keys, Description**
					Bit 5	0 = Allow Heartbeat	
						1 = No Heartbeat	
					Bit 6-7 = Unused		
				0x01	*ALL-Link Database Delta* number		
				0x02 ⇒ 0xFF	Unused		
Get Operating Flags (SmartLabs 2486D KeypadLinc Dimmer, SmartLabs 2886D Icon In-Wall Controller)	**0x01**	**0x09 0x0A**	**0x1F**	Flags Requested			Returned ACK message will contain the requested data in Command 2.
				0x00	Bit 0	0 = Program Lock Off	
						1 = Program Lock On	
					Bit 1	0 = LED Off During Transmit	
						1 = LED On During Transmit	
					Bit 2	0 = Resume Dim Disabled	
						1 = Resume Dim Enabled	
					Bit 3	0 = 6 Keys	
						1 = 8 Keys	
					Bit 4	0 = Backlight On	
						1 = Backlight Off	
					Bit 5	0 = Key Beep Off	
						1 = Key Beep On	
					Bit 6-7 = Unused		
				0x01	*ALL-Link Database Delta* number		
				0x02 ⇒ 0xFF	Unused		
Get Operating Flags	**0x01**	**All But 0x09 0x0A**	**0x1F**	Flags Requested			Returned ACK message will contain the requested data in Command 2.
				0x00	Bit 0	0 = Program Lock Off	
						1 = Program Lock On	
					Bit 1	0 = LED Off During Transmit	
						1 = LED On During Transmit	
					Bit 2	0 = Resume Dim Disabled	
						1 = Resume Dim Enabled	
					Bit 3 = Unused		
					Bit 4	0 = LED Enabled	
						1 = LED Off	
					Bit 5	0 = Load Sense Off	
						1 = Load Sense On	
					Bit 6-7 = Unused		
				0x01	*ALL-Link Database Delta* number		
				0x02	Signal-to-Noise Value		

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**			**Note Keys, Description**
				0x03 ⇉ 0xFF	Unused		
Get Operating Flags (SmartLabs 2476ST SwitchLinc i2 Relay Countdown Timer)	**0x02**	**0x0E**	**0x1F**	Flags Requested			Returned ACK message will contain the requested data in Command 2.
				0x00	Bit 0	0 = Program Lock Off	
						1 = Program Lock On	
					Bit 1	0 = LED Off During Transmit	
						1 = LED On During Transmit	
					Bit 2	0 = Countdown Timer Enabled	
						1 = Countdown Timer Disabled	
					Bit 3	0 = **ED 0x30** *Trigger ALL-Link Command* Enabled	
						1 = **ED 0x30** *Trigger ALL-Link Command* Disabled	
					Bit 4	0 = LED Enabled	
						1 = LED Off	
					Bit 5	0 = Enable 1-Minute Warning (Flash the Load)	
						1 = Disable 1-Minute Warning	
					Bit 6-7 = Unused		
				0x01	*ALL-Link Database Delta* number		
				0x02 ⇉ 0xFF	Unused		
Get Operating Flags (SmartLabs 2486S KeypadLinc Relay)	**0x02**	**0x0F**	**0x1F**	Flags Requested			Returned ACK message will contain the requested data in Command 2.
				0x00	Bit 0	0 = Program Lock Off	
						1 = Program Lock On	
					Bit 1	0 = LED Off During Transmit	
						1 = LED On During Transmit	
					Bit 2	0 = Resume Dim Disabled	
						1 = Resume Dim Enabled	
					Bit 3	0 = 6 Keys	
						1 = 8 Keys	
					Bit 4	0 = Backlight On	
						1 = Backlight Off	
					Bit 5	0 = Key Beep Off	
						1 = Key Beep On	
					Bit 6-7 = Unused		
				0x01	*ALL-Link Database Delta* number		

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**		**Note Keys, Description**
				0x02	Signal-to-Noise Value	
				0x03 ⇒ **0xFF**	Unused	
Get Operating Flags	**0x02**	**All But 0x0E 0x0F**	**0x1F**	Flags Requested		Returned ACK message will contain the requested data in Command 2.
				0x00	Bit 0 = 0 Program Lock Off	
					Bit 0 = 1 Program Lock On	
					Bit 1 = 0 LED Off During Transmit	
					Bit 1 = 1 LED On During Transmit	
					Bit 2 = 0 Resume Dim Disabled	
					Bit 2 = 1 Resume Dim Enabled	
					Bit 3 = Unused	
					Bit 4 = 0 LED Enabled	
					Bit 4 = 1 LED Off	
					Bit 5 = 0 Load Sense Off	
					Bit 5 = 1 Load Sense On	
					Bit 6-7 = Unused	
				0x01	*ALL-Link Database Delta* number	
				0x02 ⇒ **0xFF**	Unused	
Set Operating Flags (SmartLabs 2430 ControLinc and 2830 Icon Tabletop Controller)	**0x00**	**0x04 0x06**	**0x20**	Flag to Alter		Defaults given in **bold**.
				0x00	Program Lock On	
				0x01	**Program Lock Off**	
				0x02	**LED On**	
				0x03	LED Off	
				0x04	Beeper On	
				0x05	**Beeper Off**	
				0x06 ⇒ **0xFF**	Unused	
Set Operating Flags (SmartLabs 2843 RemoteLinc)	**0x00**	**0x05**	**0x20**	Flag to Alter		Defaults given in **bold**.
				0x00	Program Lock On	
				0x01	**Program Lock Off**	
				0x02	**LED Enabled**	
				0x03	LED Off	
				0x04	**Beeper Enabled**	
				0x05	Beeper Off	
				0x06	Stay Awake On	
				0x07	**Stay Awake Off**	
				0x08	Listen Only On	
				0x09	**Listen Only Off**	
				0x0A	**No I'm Alive On**	
				0x0B	No I'm Alive Off	
				0x0C ⇒ **0xFF**	Unused	
Set Operating Flags	**0x01**	**0x09**	**0x20**	Flag to Alter		Defaults given in **bold**.

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**		**Note Keys, Description**
(SmartLabs 2486D KeypadLinc Dimmer, SmartLabs 2886D Icon In-Wall Controller)				**0x00**	Program Lock On	
				0x01	**Program Lock Off**	
				0x02	LED On during TX	
				0x03	**LED Off during TX**	
				0x04	Resume Dim On	
				0x05	**Resume Dim Off**	
				0x06	8-Key KeypadLinc	
				0x07	**6-Key KeypadLinc**	
				0x08	LED Backlight Off	
				0x09	**LED Backlight On**	
				0x0A	Key Beep Enabled	
				0x0B	**Key Beep Off**	
				0x0C ⇒ 0xFF	Unused	
Set Operating Flags	**0x01**	**All But 0x09 0x0A**	**0x20**	Flag to Alter		Defaults given in **bold**.
				0x00	Program Lock On	
				0x01	**Program Lock Off**	
				0x02	LED On during TX Default for SubCat **0x00** (SmartLabs LampLinc V2 Dimmer 2456D3)	
				0x03	LED Off during TX Default for SubCat **0x01** (SmartLabs SwitchLinc V2 Dimmer 2476D)	
				0x04	Resume Dim On	
				0x05	**Resume Dim Off**	
				0x06	**Load Sense On**	
				0x07	Load Sense Off	
				0x08	LED Off	
				0x09	**LED Enabled**	
				0x0A ⇒ 0xFF	Unused	
Set Operating Flags (SmartLabs 2476ST SwitchLinc i2 Relay Countdown Timer)	**0x02**	**0x0E**	**0x20**	Flag to Alter		Defaults given in **bold**.
				0x00	Program Lock On	
				0x01	**Program Lock Off**	
				0x02	LED On during TX	
				0x03	**LED Off during TX**	
				0x04	Countdown Timer Disabled	
				0x05	**Countdown Timer Enabled**	
				0x06	**ED 0x30** *Trigger ALL-Link Command* Disabled	
				0x07	**ED 0x30 *Trigger ALL-Link Command* Enabled**	
				0x08	LED Off	
				0x09	**LED Enabled**	
				0x0A	1-Minute Warning Disabled	
				0x0B	**1-Minute Warning Enabled (Flash the Load)**	

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**		**Note Keys, Description**
				0x0C ⇒ 0xFF	Unused	
Set Operating Flags (SmartLabs 2486S KeypadLinc Relay)	**0x02**	**0x0F**	**0x20**	Flag to Alter		Defaults given in **bold**.
				0x00	Program Lock On	
				0x01	**Program Lock Off**	
				0x02	LED On during TX	
				0x03	**LED Off during TX**	
				0x04	Resume Dim On	
				0x05	**Resume Dim Off**	
				0x06	8-Key KeypadLinc	
				0x07	**6-Key KeypadLinc**	
				0x08	LED Backlight Off	
				0x09	**LED Backlight On**	
				0x0A	Key Beep Enabled	
				0x0B	**Key Beep Off**	
				0x0C ⇒ 0xFF	Unused	
Set Operating Flags	**0x02**	**All But 0x0F**	**0x20**	Flag to Alter		Defaults given in **bold**.
				0x00	Program Lock On	
				0x01	**Program Lock Off**	
				0x02	LED On during TX Default for SubCat **0x09** (SmartLabs ApplianceLinc 2456S3)	
				0x03	LED Off during TX Default for SubCat **0x0A** (SmartLabs SwitchLinc Relay 2476S) and SubCat **0x08** (SmartLabs OutletLinc)	
				0x04	Resume Dim On	
				0x05	**Resume Dim Off**	
				0x06	**Load Sense On** Default for all SubCats except **0x08**	
				0x07	Load Sense Off Default for SubCat **0x08** (SmartLabs OutletLinc)	
				0x08	LED Off	
				0x09	**LED Enabled**	
				0x0A ⇒ 0xFF	Unused	
Light Instant Change	**0x01**	**All**	**0x21**	**0x00 ⇒ 0xFF** On-Level		Set light to *On-Level* at next zero crossing. [Added 20060420]
Light Manually Turned Off	**0x01**	**All**	**0x22**	**0x00 ⇒ 0xFF** Not Parsed		Indicates manual load status change.
Light Manually Turned Off	**0x02**	**All**	**0x22**	**0x00 ⇒ 0xFF** Not Parsed		Indicates manual load status change.
Light Manually Turned On	**0x01**	**All**	**0x23**	**0x00 ⇒ 0xFF** Not Parsed		Indicates manual load status change.
Light Manually Turned On	**0x02**	**All**	**0x23**	**0x00 ⇒ 0xFF** Not Parsed		Indicates manual load status change.

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
Reread Init Values (SmartLabs 2486D KeypadLinc Dimmer, SmartLabs 2886D Icon In-Wall Controller)	**0x01**	**0x09** **0x0A**	**0x24**	**0x00** ⇒ **0xFF** Not Parsed	**Depr** Deprecated (do not use in the future). For KeypadLinc only, reread initialization values from EEPROM, so that they will take effect after being poked.
Reread Init Values (SmartLabs 2486S KeypadLinc Relay)	**0x02**	**0x0F**	**0x24**	**0x00** ⇒ **0xFF** Not Parsed	**Depr** Deprecated (do not use in the future). For KeypadLinc only, reread initialization values from EEPROM, so that they will take effect after being poked.
Remote SET Button Tap	**0x01**	**All**	**0x25**	Number of Taps **0x00** Unused **0x01** 1 Tap **0x02** 2 Taps **0x03** ⇒ **0xFF** Unused	Cause a device to respond as if its SET Button were tapped once or twice.
Reserved			**0x26**		
Light Set Status	**0x01**	**N/A**	**0x27**	**0x00** ⇒ **0xFF** On-Level	Updates SwitchLinc Companion's LEDs.
Set Address MSB	**All**	**All**	**0x28**	**0x00** ⇒ **0xFF** High byte of 16-bit address	**DataTr, Depr** Deprecated (do not use in the future). Set Most-significant Byte of EEPROM address for peek or poke.
Poke One Byte	**All**	**All**	**0x29**	**0x00** ⇒ **0xFF** Byte to write	**DataTr, Depr** Deprecated (do not use in the future). Poke Data byte into address previously loaded with *Set Address MSB* and *Peek* commands (*Peek One Byte* sets LSB).
Reserved	**All**	**All**	**0x2A**	**0x00** ⇒ **0xFF**	**DataTr, Depr** These are the Block Data Transfer commands in **ED** messages.
Peek One Byte	**All**	**All**	**0x2B**	**0x00** ⇒ **0xFF** LSB of address to peek or poke	**DataTr, Depr** Deprecated (do not use in the future). The returned ACK message will contain the peeked byte in Command 2. *Peek One Byte* is also used to set the LSB for *Poke One Byte*.
Peek One Byte Internal	**All**	**All**	**0x2C**	**0x00** ⇒ **0xFF** LSB of internal memory address to peek or poke	**DataTr, Depr** Deprecated (do not use in the future). Works like *Peek One Byte*, except only used to read from internal EEPROM of a Smarthome ControLinc V2.
Poke One Byte Internal	**All**	**All**	**0x2D**	**0x00** ⇒ **0xFF** Byte to write	**DataTr, Depr** Deprecated (do not use in the future). Works like *Poke One Byte*, except only used to write into internal EEPROM of a Smarthome ControLinc V2.
Light ON at Ramp Rate	**0x01**	**All**	**0x2E**	**0x00** ⇒ **0xFF** On-Level and Ramp Rate Combined	Bits 0-3 = 2 x *Ramp Rate* + 1 Bits 4-7 = *On-Level* + 0x0F
Light OFF at Ramp Rate	**0x01**	**All**	**0x2F**	**0x00** ⇒ **0x0F** Ramp Rate (On-Level field is ignored, always interpreted as 0)	Bits 0-3 = 2 x *Ramp Rate* + 1 Bits 4-7 = *On-Level* (ignored, always = 0)
Reserved			**0x30** ⇒ **0x3F**		
Sprinkler Valve ON	**0x04**	**All**	**0x40**	**0x00** ⇒ **0xFF** Valve Number	
Sprinkler Valve OFF	**0x04**	**All**	**0x41**	**0x00** ⇒ **0xFF** Valve Number	
Sprinkler Program ON	**0x04**	**All**	**0x42**	**0x00** ⇒ **0xFF** Program Number	

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**		**Note Keys, Description**
Sprinkler Program OFF	**0x04**	**All**	**0x43**	**0x00** ⇒ **0xFF** Program Number		
Sprinkler Control	**0x04**	**All**	**0x44**	Subcommand		
				0x00	Load Initialization Values	
				0x01	Load EEPROM from RAM	Load RAM parameters from RAM EEPROM
				0x02	Get Valve Status	ACK contains 1-byte valve status in Command 2 0 = Off 1 = On
				0x03	Inhibit Command Acceptance	Stop accepting commands
				0x04	Resume Command Acceptance	Resume accepting commands
				0x05	Skip Forward	Turn off active valve and continue with next valve in program
				0x06	Skip Back	Turn off active valve and continue with previous valve in program
				0x07	Enable Pump on V8	Enable pump control on V8
				0x08	Disable Pump on V8	Disable pump control on V8
				0x09	Broadcast ON	Enable **SB 0x27** *Device Status Changed* broadcast on valve status change
				0x0A	Broadcast OFF	Disable **SB 0x27** *Device Status Changed* broadcast on valve status change
				0x0B	Load RAM from EEPROM	Load RAM parameters from EEPROM
				0x0C	Sensor ON	Enable sensor reading
				0x0D	Sensor OFF	Disable sensor reading
				0x0E	Diagnostics ON	Put device in self-diagnostics
				0x0F	Diagnostics OFF	Take device out of self-diagnostics
				0x10 ⇒ **0xFF**	Unused	
Flash LED (SmartLabs 2676D-B ICON Dimmer)	**0x01**	**0x13**	**0x45**	Subcommand		**Dupl**
				0x00	Cancel LED Flashing	
				0x01 ⇒ **0xFF**	Begin LED Flashing	Device's LED flashes ½ second on, ½ second off, until canceled
Flash LED (SmartLabs 2676R-B ICON Relay)	**0x02**	**0x13**	**0x45**	Subcommand		**Dupl**
				0x00	Cancel LED Flashing	
				0x01 ⇒ **0xFF**	Begin LED Flashing	Device's LED flashes ½ second on, ½ second off, until canceled
Sprinkler Get Program Request	**0x04**	**All**	**0x45**	**0x00** ⇒ **0xFF** Program Number		**Dupl** Added 5/05/06 Addressee responds with **ED 0x41xx** *Sprinkler Get Program Response*
I/O Output On	**0x07**	**All**	**0x45**	**0x00** ⇒ **0xFF** Output Number		**Dupl** Turns *Output Number* On
I/O Output Off	**0x07**	**All**	**0x46**	**0x00** ⇒ **0xFF** Output Number		Turns *Output Number* Off
I/O Alarm Data Request	**0x07**	**All**	**0x47**	**0x00**		Addressee responds with an **ED 0x4C00** *Alarm Data Response* message
Reserved			**0x47**	**0x01** ⇒ **0xFF**		
I/O Write Output Port	**0x07**	**All**	**0x48**	**0x00** ⇒ **0xFF** Value to store (only output bits are affected)		ACK contains byte written to Output Port in Command 2
I/O Read Input Port	**0x07**	**All**	**0x49**	**0x00**		ACK contains byte read from Input Port in Command 2

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
I/O Get Sensor Value	**0x07**	**All**	**0x4A**	**0x00** ⇒ **0xFF** Sensor number	ACK contains Sensor Value in Command 2
I/O Set Sensor 1 Nominal Value	**0x07**	**All**	**0x4B**	**0x00** ⇒ **0xFF** Nominal Value	Set Nominal Value for Sensor 1 to reach. Other sensors can be set with **ED 0x4Bxx** *Set Sensor Nominal*
I/O Get Sensor Alarm Delta	**0x07**	**All**	**0x4C**	**Bits 0-3** Sensor number **Bits 4-6** Delta from nominal **Bit 7** Delta Direction (+ if 0)	**Dupl** When added to or subtracted from midpoint, these are the values to trigger **SB 0x27** *Device Status Changed* alarm messages
Fan Status Report	**0x05**	**0x00** **0x02**	**0x4C**	Fan Capacity	**Dupl** Sent to controller when fan state changes.
				0x00 ⇒ **0x7F** Bits 0 - 6 = Fan Capacity in CFM Bit 7 = 0	
				0x80 ⇒ **0xFF** Bits 0 - 6 = Fan Capacity in CFM Bit 7 = 1, fan was turned off, Fan Capacity is removed from total airflow	
I/O Write Configuration Port	**0x07**	**All**	**0x4D**	**Bits 0-1** 00 Analog Input not used 01 Analog Input used, convert upon command 10 Analog Input used, convert at fixed interval 11 Unused	Modifies command responses
				Bit 2 If 1, send **SB 0x27** *Device Status Changed* broadcast on Sensor Alarm	
				Bit 3 If 1, send **SB 0x27** *Device Status Changed* broadcast on Input Port change	
				Bit 4 If 1, Enable 1-Wire port (Sensors 1-8)	
				Bit 5 If 1, Enable ALL-Link aliasing to default set	
				Bit 6 If 1, send **SB 0x27** *Device Status Changed* broadcast on Output Port change	
				Bit 7 If 1, Enable Output Timers	
I/O Read Configuration Port	**0x07**	**All**	**0x4E**	**0x00**	ACK contains byte read from Configuration Port in Command 2. See **SD 0x4Dxx** *Write Configuration Port* above for port bit definitions.
I/O Module Control	**0x07**	**All**	**0x4F**	Subcommand	
				0x00 Load Initialization Values	Reset to factory default settings
				0x01 Load EEPROM from RAM	Makes permanent any changes to settings such as those made to parameters with a Poke command
				0x02 Status Request	ACK contains state of outputs in Command 2
				0x03 Read Analog Once	Starts the A/D conversion once
				0x04 Read Analog Always	Starts the A/D conversion at preset intervals
				0x05 ⇒ **0x08** Unused	
				0x09 Enable Status Change message	Enables **SB 0x27** *Device Status Changed* broadcast message each time the Input Port status changes

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**		**Note Keys, Description**
				0x0A	Disable Status Change message	Disables **SB 0x27** *Device Status Changed* broadcast message each time the Input Port status changes
				0x0B	Load RAM from EEPROM	Moves parameters from EEPROM into RAM
				0x0C	Sensor On	Enable sensor reading
				0x0D	Sensor Off	Disable sensor reading
				0x0E	Diagnostics On	Put device in self-diagnostics mode
				0x0F	Diagnostics Off	Take device out of self-diagnostics mode
				0x10 ⇒ 0xFF Unused		
Pool Device ON	**0x06**	**All**	**0x50**	**0x00 ⇒ 0xFF** Device Number		0 = Unused 1 = Pool 2 = Spa 3 = Heat 4 = Pump 5 - 255 Aux
Pool Device OFF	**0x06**	**All**	**0x51**	**0x00 ⇒ 0xFF** Device Number		0 = All OFF 1 = Pool 2 = Spa 3 = Heat 4 = Pump 5 - 255 Aux
Pool Temperature Up	**0x06**	**All**	**0x52**	**0x00 ⇒ 0xFF** Temperature Change		Increase current temperature setting by *Temperature Change* x 0.5
Pool Temperature Down	**0x06**	**All**	**0x53**	**0x00 ⇒ 0xFF** Temperature Change		Decrease current temperature setting by *Temperature Change* x 0.5
Pool Control	**0x06**	**All**	**0x54**	Subcommand		
				0x00	Load Initialization Values	
				0x01	Load EEPROM from RAM	
				0x02	Get Pool Mode	ACK contains 1-byte thermostat mode in Command 2 0 = Pool 1 = Spa 2 - 255 Unused
				0x03	Get Ambient Temperature	**NClar** ACK contains ambient temperature in Command 2
				0x04	Get Water Temperature	**NClar** ACK contains water temperature in Command 2
				0x05	Get pH	ACK contains pH value in Command 2
				0x06 ⇒ 0xFF	Unused	
Reserved			**0x55 ⇒ 0x57**			
Door Move	**0x0F**	**All**	**0x58**	Subcommand		
				0x00	Raise Door	
				0x01	Lower Door	
				0x02	Open Door	
				0x03	Close Door	
				0x04	Stop Door	
				0x05	Single Door Open	
				0x06	Single Door Close	

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**		**Note Keys, Description**
				0x07 ⇒ **0xFF**	Unused	
Door Status Report	**0x0F**	**All**	**0x59**	Subcommand		
				0x00	Raise Door	
				0x01	Lower Door	
				0x02	Open Door	
				0x03	Close Door	
				0x04	Stop Door	
				0x05	Single Door Open	
				0x06	Single Door Close	
				0x07 ⇒ **0xFF**	Unused	
Reserved			**0x5A** ⇒ **0x5F**			
Window Covering	**0x0E**	**All**	**0x60**	Subcommand		
				0x00	Open	
				0x01	Close	
				0x02	Stop	
				0x03	Program	
				0x04 ⇒ **0xFF**	Unused	
Window Covering Position	**0x0E**	**All**	**0x61**	**0x00** ⇒ **0xFF** Position		0x00 is closed, 0xFF is open.
Reserved			**0x62** ⇒ **0x67**			
Thermostat Temperature Up	**0x05**	**All**	**0x68**	**0x00** ⇒ **0xFF** Temperature Change x 2 (unsigned byte)		Increase current temperature setting by *Temperature Change* x 0.5
Thermostat Temperature Down	**0x05**	**All**	**0x69**	**0x00** ⇒ **0xFF** Temperature Change x 2 (unsigned byte)		Decrease current temperature setting by *Temperature Change* x 0.5
Thermostat Get Zone Information	**0x05**	**All**	**0x6A**	**Bits 0-4** Zone Number 0-31		ACK contains Zone Temperature, Setpoint, Deadband, or Humidity as an unsigned byte in Command 2
				Bits 5,6	00 = Temperature	
					01 = Setpoint	
					10 = Deadband	
					11 = Humidity	
				Bit 7 Unused		
Thermostat Control	**0x05**	**All**	**0x6B**	Subcommand		
				0x00	Load Initialization Values	
				0x01	Load EEPROM from RAM	
				0x02	Get Thermostat Mode	ACK contains 1-byte thermostat mode in Command 2 0x00 = Off 0x01 = Heat 0x02 = Cool 0x03 = Auto 0x04 = Fan 0x05 = Program 0x06 = Program Heat 0x07 = Program Cool 0x08 ⇒ 0xFF Unused

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**		**Note Keys, Description**
				0x03	Get Ambient Temperature	**NClar** ACK contains ambient temperature in Command 2
				0x04	ON Heat	Set mode to Heat
				0x05	ON Cool	Set mode to Cool
				0x06	ON Auto	Set mode to Auto
				0x07	ON Fan	Turn fan on
				0x08	OFF Fan	Turn fan off
				0x09	OFF All	Turn everything off
				0x0A	Program Heat	Set mode to Program Heat
				0x0B	Program Cool	Set mode to Program Cool
				0x0C	Program Auto	Set mode to Program Auto
				0x0D	Get Equipment State	Bit 0 = Cool active Bit 1 = Heat active Bit 2 = Programmable output available Bit 3 = Programmable output state Bits 4-7 Unused
				0x0E	Set Equipment State	Bit 0 = Programmable output state Bits 1-7 Unused
				0x0F	Get Temperature Units	ACK contains Units in Command 2 0x00 = Fahrenheit 0x01 = Celsius 0x02 ⇒ 0xFF Unused
				0x10	Set Fahrenheit	Set Temperature Units to Fahrenheit
				0x11	Set Celsius	Set Temperature Units to Celsius
				0x12	Get Fan-On Speed	ACK contains speed fan will run at when turned on, in Command 2 0x00 = Single-speed Fan 0x01 = Low Speed 0x02 = Medium Speed 0x03 = High Speed 0x04 ⇒ 0xFF Unused
				0x13	Set Fan-On Speed Low	Fan will run at low speed when on (ignored by single-speed fans)
				0x14	Set Fan-On Speed Medium	Fan will run at medium speed when on (Ignored by single-speed fans)
				0x15	Set Fan-On Speed High	Fan will run at high speed when on (Ignored by single-speed fans)
				0x16	Enable Status Change message	Enables **SB 0x27** *Device Status Changed* broadcast message each time the Thermostat Mode status changes
				0x17	Disable Status Change message	Disables **SB 0x27** *Device Status Changed* broadcast message each time the Thermostat Mode status changes
				0x18 ⇒ 0xFF	Unused	
Thermostat Set Cool Setpoint	**0x05**	**All**	**0x6C**	**0x00 ⇒ 0xFF** Temperature Setpoint x 2 (unsigned byte)		Set current cool temperature setpoint to *Temperature Setpoint* x 0.5
Thermostat Set Heat Setpoint	**0x05**	**All**	**0x6D**	**0x00 ⇒ 0xFF** Temperature Setpoint x 2 (unsigned byte)		Set current heat temperature setpoint to *Temperature Setpoint* x 0.5
Reserved			**0x6E ⇒ 0x6F**			
Leak Detector Announce	**0x09**	**All**	**0X70**	**0x00** Leak Detected		
				0x01 No Leak Detected		
				0x02 Battery Low		
				0x03 Battery OK		
Reserved			**0x70**	**0x04 ⇒ 0xFF**		

SD Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
Reserved			**0x71 ⇒ 0x80**		
Assign to Companion Group	**0x01**	**0x01 0x04**	**0x81**	**0x00 ⇒ 0xFF** Not Parsed	Deprecated (do not use in the future). For SwitchLinc only, allows Slaves of a Master to follow the Master when the Master is controlled by a companion device.
Reserved			**0x82 ⇒ 0xEF**		
FX Commands	**All**	**All**	**0xF0 ⇒ 0xFF**	User-specific	**FX** These commands only function if *FX Usernames* in a Controller and Responder device match during linking.

2.1.2 INSTEON Extended-length Direct Commands

The table below lists the existing INSTEON **ED** Extended-length Direct Commands.

The Note Key **Req-All** denotes INSTEON commands that shall be supported by INSTEON devices in all Device Categories. **Req-All** command names appear in **bold type**.

The Note Key **Req-Ex** (…) denotes INSTEON commands that shall be supported by INSTEON devices in all Device Categories except as noted within the parentheses. **Req-Ex** command names appear in **bold type**.

ED Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
Reserved			**0x00**	**0x00**	Must be undefined in all INSTEON devices because this is the default Command to execute using **ED 0x0304** *Set ALL-Link Command Alias*
Reserved			**0x00**	**0x01⇒ 0xFF**	
Reserved			**0x01 ⇒ 0x02**		
Product Data Response [Response to **SD 0x0300** *Product Data Request*]	**All**	**All**	**0x03**	**0x00**	**Req-All, Req-Ex** (Required after 2/1/07)
					D1 **0x00** Reserved (always set to 0x00)
					D2 **0x00 ⇒ 0xFF** INSTEON Product Key MSB
					D3 **0x00 ⇒ 0xFF** INSTEON Product Key 2MSB
					D4 **0x00 ⇒ 0xFF** INSTEON Product Key LSB
					D5 **0x00 ⇒ 0xFF** Device Category (DevCat)
					D6 **0x00 ⇒ 0xFF** Device Subcategory (SubCat)
					D7 **0xFF** Reserved (always set to 0xFF) (Matches byte in LSB of *To Address* of **SB 0x01** *SET Button Pressed Responder* or **SB 0x02** *SET Button Pressed Controller* commands)
					D8 **0xFF** Reserved (always set to 0xFF) (Matches byte in Command 2 of **SB 0x01** *SET Button Pressed Responder* or **SB 0x02** *SET Button Pressed Controller* commands)
					D9 ⇒ D14 User-defined
FX Username Response [Response to **SD 0x0301** *FX Username Request*]	**All**	**All**	**0x03**	**0x01**	**Req-Ex** (Only required for devices that support FX Commands), **FX**
					D1 ⇒ D8 **0x00 ⇒ 0xFF** FX Command Username Used for *FX Commands*, which are user-specific **SD** or **ED** commands numbered **0xFF00 ⇒ 0xFFFF**
					D9 ⇒ D14 User-defined

ED Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
Device Text String Response [Response to **SD 0x0302** *Device Text String Request*]	**All**	**All**	**0x03**	**0x02**	D1 ⇒ D14 **ASCII** Text string describing device Null (0x00) terminated unless 14 bytes long
Set Device Text String	**All**	**All**	**0x03**	**0x03**	D1 ⇒ D14 **ASCII** Text string describing device Null (0x00) terminated unless 14 bytes long
Set ALL-Link Command Alias	**All**	**All**	**0x03**	**0x04**	D1 **0x11 ⇒ 0xFF** ALL-Link Command Number to replace with **SD** or **ED** Direct Command in D2, D3.
					D2, D3 **0x0000 ⇒ 0xFFFF** **SD** or **ED** Direct Command to execute in place of ALL-Link Command in D1. Set to **0x0000** to ignore ALL-Link Command.
					D4 **0x00**, **0x01** Flag
					0x00 Direct Command is **SD** (Standard-length).
					0x01 Direct Command is **ED** Extended-length), **ED 0x0305** *Set ALL-Link Command Alias Extended Data* message follows.
					D5 ⇒ D14 Unused
Set ALL-Link Command Alias Extended Data	**All**	**All**	**0x03**	**0x05**	D1 ⇒ D14 **0x00 ⇒ 0xFF** Data field of **ED** Command to execute in place of ALL-Link Command in D1 of previous **ED 0x0304** *Set ALL-Link Command Alias* message.
Reserved			**0x03**	**0x06 ⇒ 0xFF**	
Reserved			**0x04 ⇒ 0x29**		
Block Data Transfer	**All**	**All**	**0x2A**	**0x00** Transfer Failure	**DataTr**
					D1 **0x00 ⇒ 0xFF** Source address MSB
					D2 **0x00 ⇒ 0xFF** Source address LSB
					D3 ⇒ D14 Unused
				0x01 Transfer Complete, 1 byte in this last message	**DataTr**
					D1 **0x00 ⇒ 0xFF** Source address MSB
					D2 **0x00 ⇒ 0xFF** Source address LSB
					D3 Final 1 byte
					D4 ⇒ D14 Unused
				0x02 Transfer Complete, 2 bytes in this last message	**DataTr**
					D1 **0x00 ⇒ 0xFF** Source address MSB
					D2 **0x00 ⇒ 0xFF** Source address LSB
					D3 ⇒ D4 Final 2 bytes
					D5 ⇒ D14 Unused
				0x03 Transfer Complete, 3 bytes in this last message	**DataTr**
					D1 **0x00 ⇒ 0xFF** Source address MSB
					D2 **0x00 ⇒ 0xFF** Source address LSB
					D3 ⇒ D5 Final 3 bytes
					D6 ⇒ D14 Unused
				0x04 Transfer Complete, 4 bytes in this last message	**DataTr**
					D1 **0x00 ⇒ 0xFF** Source address MSB
					D2 **0x00 ⇒ 0xFF** Source address LSB
					D3 ⇒ D6 Final 4 bytes

ED Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
					D7 ⇒ D14 Unused
				0x05 Transfer Complete, 5 bytes in this last message	**DataTr**
					D1 **0x00** ⇒ **0xFF** Source address MSB
					D2 **0x00** ⇒ **0xFF** Source address LSB
					D3 ⇒ D7 Final 5 bytes
					D8 ⇒ D14 Unused
				0x06 Transfer Complete, 6 bytes in this last message	**DataTr**
					D1 **0x00** ⇒ **0xFF** Source address MSB
					D2 **0x00** ⇒ **0xFF** Source address LSB
					D3 ⇒ D8 Final 6 bytes
					D9 ⇒ D14 Unused
				0x07 Transfer Complete, 7 bytes in this last message	**DataTr**
					D1 **0x00** ⇒ **0xFF** Source address MSB
					D2 **0x00** ⇒ **0xFF** Source address LSB
					D3 ⇒ D9 Final 7 bytes
					D10 ⇒ D14 Unused
				0x08 Transfer Complete, 8 bytes in this last message	**DataTr**
					D1 **0x00** ⇒ **0xFF** Source address MSB
					D2 **0x00** ⇒ **0xFF** Source address LSB
					D3 ⇒ D10 Final 8 bytes
					D11 ⇒ D14 Unused
				0x09 Transfer Complete, 9 bytes in this last message	**DataTr**
					D1 **0x00** ⇒ **0xFF** Source address MSB
					D2 **0x00** ⇒ **0xFF** Source address LSB
					D3 ⇒ D11 Final 9 bytes
					D12 ⇒ D14 Unused
				0x0A Transfer Complete, 10 bytes in this last message	**DataTr**
					D1 **0x00** ⇒ **0xFF** Source address MSB
					D2 **0x00** ⇒ **0xFF** Source address LSB
					D3 ⇒ D12 Final 10 bytes
					D13 ⇒ D14 Unused
				0x0B Transfer Complete, 11 bytes in this last message	**DataTr**
					D1 **0x00** ⇒ **0xFF** Source address MSB
					D2 **0x00** ⇒ **0xFF** Source address LSB
					D3 ⇒ D13 Final 11 bytes
					D13 Unused
				0x0C Transfer Complete, 12 bytes in this last message	**DataTr**
					D1 **0x00** ⇒ **0xFF** Source address MSB
					D2 **0x00** ⇒ **0xFF** Source address LSB
					D3 ⇒ D14 Final 12 bytes
				0x0D Transfer Continues, 12 bytes in this message	**DataTr**
					D1 **0x00** ⇒ **0xFF** Source address MSB
					D2 **0x00** ⇒ **0xFF** Source address LSB
					D3 ⇒ D14 12 bytes
				0x0E ⇒ **0xFE** Reserved	
				0xFF Request Block Data Transfer	**DataTr**
					D1 **0x00** ⇒ **0xFF** Source address MSB
					D2 **0x00** ⇒ **0xFF** Source address LSB
					D3 **0x00** ⇒ **0xFF** Destination addr MSB
					D4 **0x00** ⇒ **0xFF** Destination addr LSB
					D5 **0x00** ⇒ **0xFF** Block length MSB
					D6 **0x00** ⇒ **0xFF** Block length LSB

ED Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**	
					D7 **0x00** ⇒ **0xFF** Destination ID MSB	
					D8 **0x00** ⇒ **0xFF** Destination ID 2MSB	
					D9 **0x00** ⇒ **0xFF** Destination ID LSB	
					D10 ⇒ D14 Unused	
Reserved			**0x2B** ⇒ **0x2D**			
Extended Set/Get (SmartLabs 2430 ControLinc and 2830 Icon Tabletop Controller)	**0x00**	**0x04** **0x06**	**0x2E**	**0x00**	D1 **0x00** ⇒ **0xFF** Button/Group Number	
					D2 **0x00** Data Request [Addressee responds with *Data Response*]	D3 ⇒ D14 Unused
					D2 **0x01** Data Response [Response to *Data Request*]	D3 **0x00** ⇒ **0x0F** X10 House Code #1 (**0x20** = none)
						D4 **0x00** ⇒ **0x0F** X10 Unit Code #1
						D5 **0x00** ⇒ **0x0F** X10 House Code #2 (**0x20** = none)
						D6 **0x00** ⇒ **0x0F** X10 Unit Code #2
						D7 **0x00** ⇒ **0x0F** X10 House Code #3 (**0x20** = none)
						D8 **0x00** ⇒ **0x0F** X10 Unit Code #3
						D9 **0x00** ⇒ **0x0F** X10 House Code #4 (**0x20** = none)
						D10 **0x00** ⇒ **0x0F** X10 Unit Code #4
						D11 **0x00** ⇒ **0x0F** X10 House Code #5 (**0x20** = none)
						D12 **0x00** ⇒ **0x0F** X10 Unit Code #5
						D13 ⇒ D14 Unused
					D2 **0x02** ⇒ **0x03** Unused	
					D2 **0x04** Set X10 Address	D3 **0x00** ⇒ **0x0F** X10 House Code (**0x20** = none)
						D4 **0x00** ⇒ **0x0F** X10 Unit Code
						D5 ⇒ D14 Unused
					D2 **0x05** ⇒ **0xFF** Unused	
Extended Set/Get (SmartLabs 2843 RemoteLinc)	**0x00**	**0x05**	**0x2E**	**0x00**	D1 **0x00** ⇒ **0xFF** Button/Group Number	
					D2 **0x00** Data Request [Addressee responds with *Data Response*]	D3 ⇒ D14 Unused
					D2 **0x01** Data Response [Response to *Data*	D3 **0x00** ⇒ **0xFF** Awake Time Upon Heartbeat, seconds

ED Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**	
					Request]	D4 **0x00 ⇒ 0xFF** Heartbeat Interval X 755.2 seconds (12.5 minutes)
						D5 **0x00 ⇒ 0xFF** Number of **SB 0x04** *Heartbeat* messages to send upon Heartbeat
						D6 **0x00 ⇒ 0xFF** Button Trigger-ALL-Link Bitmap If bit = 0, associated button sends normal Command If bit = 0, associated button sends **ED 0x30** *Trigger ALL-Link* Command to first device in ALDB
						D7 ⇒ D14 Unused
					D2 **0x02** Set Awake Time Upon Heartbeat	D3 **0x00 ⇒ 0xFF** Awake Time Upon Heartbeat, seconds
						D4 ⇒ D14 Unused
					D2 **0x03** Set Heartbeat Interval	D3 **0x00 ⇒ 0xFF** Heartbeat Interval X 755.2 seconds (12.5 minutes)
						D4 ⇒ D14 Unused
					D2 **0x04** Set Number of **SB 0x04** *Heartbeat* messages to send upon Heartbeat	D3 **0x00 ⇒ 0xFF** Number of **SB 0x04** *Heartbeat* messages to send upon Heartbeat
						D4 ⇒ D14 Unused
					D2 **0x05** Set Trigger-ALL-Link State for Button	D3 **0x00 ⇒ 0x01** 0 = Button sends normal Command 1 = Button sends **ED 0x30** *Trigger ALL-Link* Command to first device in ALDB
						D4 ⇒ D14 Unused
					D2 **0x06 ⇒ 0xFF** Unused	
Extended Set/Get (SmartLabs 2486D KeypadLinc Dimmer, SmartLabs 2886D Icon In-Wall Controller)	**0x01**	**0x09 0x0A**	**0x2E**	**0x00**	D1 **0x00 ⇒ 0xFF** Button/Group Number	
					D2 **0x00** Data Request [Addressee responds with *Data Response*]	D3 ⇒ D14 Unused
					D2 **0x01** Data Response [Response to *Data Request*]	D3 **0x00 ⇒ 0xFF** Button's LED-Follow Mask
						D4 **0x00 ⇒ 0xFF** Button's LED-Off Mask
						D5 **0x00 ⇒ 0xFF** Button's X10 House Code

ED Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**	
						D6 **0x00 ⇒ 0xFF** Button's X10 Unit Code
						D7 **0x00 ⇒ 0x1F** Button's *Ramp Rate*
						D8 **0x00 ⇒ 0xFF** Button's *On- Level*
						D9 **0x11 ⇒ 0x7F** Global LED Brightness
						D10 **0x00 ⇒ 0xFF** Non-toggle Bitmap If bit = 0, associated button is Toggle If bit = 1, associated button is Non-toggle
						D11 **0x00 ⇒ 0xFF** Button-LED State Bitmap If bit = 0, associated button's LED is Off If bit = 1, associated button's LED is On
						D12 **0x00 ⇒ 0xFF** X10-All Bitmap If bit = 0, associated button sends X10 On/Off If bit = 1, associated button sends X10 All-On/All-Off
						D13 **0x00 ⇒ 0xFF** Button Non-toggle On/Off Bitmap If bit = 0, associated button, if Non-toggle, sends Off If bit = 0, associated button, if Non-toggle, sends On
						D14 **0x00 ⇒ 0xFF** Button Trigger-ALL-Link Bitmap If bit = 0, associated button sends normal Command If bit = 0, associated button sends **ED 0x30** *Trigger ALL-Link* Command to first device in ALDB
					D2 **0x02** Set LED-Follow Mask for Button	D3 **0x00 ⇒ 0xFF** If bit = 0, associated button's LED is not affected If bit = 1, associated button's LED follows this button's LED
						D4 ⇒ D14 Unused

ED Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**	
					D2 **0x03** Set LED-Off Mask for Button	D3 **0x00 ⇒ 0xFF** If bit = 0, associated button' LED is not affected If bit = 1, associated button's LED turns off when this button is pushed
						D4 ⇒ D14 Unused
					D2 **0x04** Set X10 Address for Button	D3 **0x00 ⇒ 0xFF** X10 House Code
						D4 **0x00 ⇒ 0xFF** X10 Unit Code
						D5 ⇒ D14 Unused
					D2 **0x05** Set Ramp Rate for Button	D3 **0x00 ⇒ 0x1F** *Ramp Rate* (0.1 second to 9 minutes)
						D4 ⇒ D14 Unused
					D2 **0x06** Set On-Level for Button	D3 **0x00 ⇒ 0xFF** *On-Level*
						D4 ⇒ D14 Unused
					D2 **0x07** Set Global LED Brightness (ignores D1)	D3 **0x11 ⇒ 0x7F** Brightness for all LEDs when on
						D4 ⇒ D14 Unused
					D2 **0x08** Set Non-toggle State for Button	D3 **0x00 ⇒ 0x01** 0 = Button is Toggle 1 = Button is Non-toggle
						D4 ⇒ D14 Unused
					D2 **0x09** Set LED State for Button	D3 **0x00 ⇒ 0x01** 0 = Turn button's LED Off 1 = Turn button's LED On
						D4 ⇒ D14 Unused
					D2 **0x0A** Set X10 All-On State for Button	D3 **0x00 ⇒ 0x01** 0 = Button sends X10 On/Off 1 = Button sends X10 All-On/All-Off
						D4 ⇒ D14 Unused
					D2 **0x0B** Set Non-toggle On/Off State for Button	D3 **0x00 ⇒ 0x01** 0 = If Non-toggle, Button sends Off Command 1 = If Non-toggle, Button sends On Command
						D4 ⇒ D14 Unused
					D2 **0x0C** Set Trigger-ALL-Link State for Button	D3 **0x00 ⇒ 0x01** 0 = Button sends normal Command 1 = Button sends **ED 0x30** *Trigger ALL-Link* Command to first device in ALDB
						D4 ⇒ D14 Unused
					D2 **0x0D ⇒ 0xFF** Unused	
Extended Set/Get	**0x01**	**All**	**0x2E**	**0x00**	D1 **0x00 ⇒ 0xFF** Button/Group Number	

ED Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**	
		But 0x09 0x0A			D2 **0x00** Data Request [Addressee responds with *Data Response*]	D3 ⇒ D14 Unused
					D2 **0x01** Data Response [Response to *Data Request*]	D3 Unused
						D4 Unused
						D5 **0x00** ⇒ **0x0F** X10 House Code (**0x20** = none)
						D6 **0x00** ⇒ **0x0F** X10 Unit Code
						D7 **0x00** ⇒ **0x1F** *Ramp Rate*
						D8 **0x00** ⇒ **0xFF** *On-Level*
						D9 **0x00** ⇒ **0xFF** *Signal-to-Noise Threshold*
						D10 ⇒ D14 Unused
					D2 **0x02** ⇒ **0x03** Unused	
					D2 **0x04** Set X10 Address	D3 **0x00** ⇒ **0x0F** X10 House Code (**0x20** = none)
						D4 **0x00** ⇒ **0x0F** X10 Unit Code
						D5 ⇒ D14 Unused
					D2 **0x05** Set Ramp Rate	D3 **0x00** ⇒ **0x1F** *Ramp Rate* (0.1 second to 9 minutes)
						D4 ⇒ D14 Unused
					D2 **0x06** Set On-Level	D3 **0x00** ⇒ **0xFF** *On-Level*
						D4 ⇒ D14 Unused
					D2 **0x07** ⇒ **0xFF** Unused	
Extended Set/Get (SmartLabs 2476ST SwitchLinc i2 Relay Countdown Timer)	**0x02**	**0x0E**	**0x2E**	**0x00**	D1 **0x00** ⇒ **0xFF** Button/Group Number	
					D2 **0x00** Data Request [Addressee responds with *Data Response*]	D3 ⇒ D14 Unused
					D2 **0x01** Data Response [Response to *Data Request*]	D3 Unused
						D4 **0x00** ⇒ **0xFE** Default On-time minutes per button push
						D5 **0x00** ⇒ **0x0F** X10 House Code (**0x20** = none)
						D6 **0x00** ⇒ **0x0F** X10 Unit Code
						D7 **0x00** ⇒ **0xFE** If load is on, hours until it will turn off
						D8 **0x00** ⇒ **0xFF** If load is on, minutes until it will turn off

ED Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**	
						D9 **0x00 ⇒ 0xFF** *Signal-to-Noise Threshold*
						D10 ⇒ D14 Unused
					D2 **0x02 ⇒ 0x03** Unused	
					D2 **0x04** Set X10 Address	D3 **0x00 ⇒ 0x0F** X10 House Code (**0x20** = none)
						D4 **0x00 ⇒ 0x0F** X10 Unit Code
						D5 ⇒ D14 Unused
					D2 **0x05** Set Ramp Rate	D3 **0x00 ⇒ 0x1F** *Ramp Rate* (0.1 second to 9 minutes)
						D4 ⇒ D14 Unused
					D2 **0x06** Set On-Level	D3 **0x00 ⇒ 0xFF** *On-Level*
						D4 ⇒ D14 Unused
					D2 **0x07 ⇒ 0xFF** Unused	
Extended Set/Get (SmartLabs 2486S KeypadLinc Relay)	**0x02**	**0x0F**	**0x2E**	**0x00**	D1 **0x00 ⇒ 0xFF** Button/Group Number	
					D2 **0x00** Data Request [Addressee responds with *Data Response*]	D3 ⇒ D14 Unused
					D2 **0x01** Data Response [Response to *Data Request*]	D3 **0x00 ⇒ 0xFF** Button's LED-Follow Mask
						D4 **0x00 ⇒ 0xFF** Button's LED-Off Mask
						D5 **0x00 ⇒ 0xFF** Button's X10 House Code
						D6 **0x00 ⇒ 0xFF** Button's X10 Unit Code
						D7 **0x00 ⇒ 0x1F** Button's *Ramp Rate* (ignore for relay)
						D8 **0x00 ⇒ 0xFF** Button's *On- Level*
						D9 **0x11 ⇒ 0x7F** Global LED Brightness
						D10 **0x00 ⇒ 0xFF** Non-toggle Bitmap If bit = 0, associated button is Toggle If bit = 1, associated button is Non-toggle
						D11 **0x00 ⇒ 0xFF** Button-LED State Bitmap If bit = 0, associated button's LED is Off If bit = 1, associated button's LED is On

ED Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**	
						D12 **0x00 ⇒ 0xFF** X10-All Bitmap If bit = 0, associated button sends X10 On/Off If bit = 1, associated button sends X10 All-On/All-Off
						D13 **0x00 ⇒ 0xFF** Button Non-toggle On/Off Bitmap If bit = 0, associated button, if Non-toggle, sends Off If bit = 0, associated button, if Non-toggle, sends On
						D14 **0x00 ⇒ 0xFF** Button Trigger-ALL-Link Bitmap If bit = 0, associated button sends normal Command If bit = 0, associated button sends **ED 0x30** *Trigger ALL-Link* Command to first device in ALDB
					D2 **0x02** Set LED-Follow Mask for Button	D3 **0x00 ⇒ 0xFF** If bit = 0, associated button's LED is not affected If bit = 1, associated button's LED follows this button's LED
						D4 ⇒ D14 Unused
					D2 **0x03** Set LED-Off Mask for Button	D3 **0x00 ⇒ 0xFF** If bit = 0, associated button' LED is not affected If bit = 1, associated button's LED turns off when this button is pushed
						D4 ⇒ D14 Unused
					D2 **0x04** Set X10 Address for Button	D3 **0x00 ⇒ 0xFF** X10 House Code
						D4 **0x00 ⇒ 0xFF** X10 Unit Code
						D5 ⇒ D14 Unused
					D2 **0x05** Set Ramp Rate for Button	D3 **0x00 ⇒ 0x1F** *Ramp Rate* (0.1 second to 9 minutes)
						D4 ⇒ D14 Unused
					D2 **0x06** Set On-Level for Button	D3 **0x00 ⇒ 0xFF** *On-Level*
						D4 ⇒ D14 Unused
					D2 **0x07** Set Global LED Brightness (ignores D1)	D3 **0x11 ⇒ 0x7F** Brightness for all LEDs when on
						D4 ⇒ D14 Unused

ED Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**	
					D2 **0x08** Set Non-toggle State for Button	D3 **0x00 ⇒ 0x01** 0 = Button is Toggle 1 = Button is Non-toggle
						D4 ⇒ D14 Unused
					D2 **0x09** Set LED State for Button	D3 **0x00 ⇒ 0x01** 0 = Turn button's LED Off 1 = Turn button's LED On
						D4 ⇒ D14 Unused
					D2 **0x0A** Set X10 All-On State for Button	D3 **0x00 ⇒ 0x01** 0 = Button sends X10 On/Off 1 = Button sends X10 All-On/All-Off
						D4 ⇒ D14 Unused
					D2 **0x0B** Set Non-toggle On/Off State for Button	D3 **0x00 ⇒ 0x01** 0 = If Non-toggle, Button sends Off Command 1 = If Non-toggle, Button sends On Command
						D4 ⇒ D14 Unused
					D2 **0x0C** Set Trigger-ALL-Link State for Button	D3 **0x00 ⇒ 0x01** 0 = Button sends normal Command 1 = Button sends **ED 0x30** *Trigger ALL-Link* Command to first device in ALDB
						D4 ⇒ D14 Unused
					D2 **0x0D ⇒ 0xFF** Unused	
Extended Set/Get	**0x02**	**All But 0x0F**	**0x2E**	**0x00**	D1 **0x00 ⇒ 0xFF** Button/Group Number	
					D2 **0x00** Data Request [Addressee responds with *Data Response*]	D3 ⇒ D14 Unused
					D2 **0x01** Data Response [Response to *Data Request*]	D3 Unused
						D4 Unused
						D5 **0x00 ⇒ 0x0F** X10 House Code (**0x20** = none)
						D6 **0x00 ⇒ 0x0F** X10 Unit Code
						D7 ⇒ D14 Unused
					D2 **0x02 ⇒ 0x03** Unused	
					D2 **0x04** Set X10 Address	D3 **0x00 ⇒ 0x0F** X10 House Code (**0x20** = none)
						D4 **0x00 ⇒ 0x0F** X10 Unit Code
						D5 ⇒ D14 Unused
					D2 **0x05 ⇒ 0xFF** Unused	
Reserved			**0x2E**	**0x01 ⇒ 0xFF**		

ED Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**	
Read/Write ALL-Link Database (ALDB)	**All**	**All**	**0x2F**	**0x00**	**Req-All, Req-Ex, DataTr** (Required for all i2 devices) Not implemented in i1 devices	
					D1 Unused	
					D2 **0x00** ALDB Record Request [Addressee responds with ALDB Record Response(s)] **NOTE:** Set address to 0x0000 to start at first record in ALDB. (Actual memory address is 0x0FFF in SmartLabs devices.)	D3 **0x00** ⇒ **0xFF** Address High Byte
						D4 **0x00** ⇒ **0xFF** Address Low Byte
						D5 **0x00** Dump all records D5 **0x01** ⇒ **0xFF** Dump one record
						D6 ⇒ D14 Unused
					D2 **0x01** ALDB Record Response [Response to ALDB Record Request] If D5 of ALDB Record Request was 0x00, return one record, else return all records until end of ALDB is reached. (Flag Byte in last record will be 0x00). Address is automatically decremented by 8 for each record returned.	D3 **0x00** ⇒ **0xFF** Address High Byte
						D4 **0x00** ⇒ **0xFF** Address Low Byte
						D5 Unused
						D6 ⇒ D13 **0x00** ⇒ **0xFF** Returned 8-byte Record
						D14 Unused
					D2 **0x02** Write ALDB Record	D3 **0x00** ⇒ **0xFF** Address High Byte
						D4 **0x00** ⇒ **0xFF** Address Low Byte
						D5 **0x01** ⇒ **0x08** Number of Bytes (**0x09** ⇒ **0xFF** is the same as **0x08**)
						D6 ⇒ D13 **0x00** ⇒ **0xFF** 8-byte Record to Write
						D14 Unused
					D2 **0x03** ⇒ **0xFF** Unused	
Reserved			**0x2F**	**0x01** ⇒ **0xFF**		
Trigger ALL-Link Command (SmartLabs 2476D SwitchLinc i2 Dimmer 600 W, 2476DH SwitchLinc i2 Dimmer 1000 W, 2486D KeypadLinc Dimmer,	**0x01**	**0x01** **0x04** **0x09** **0x0A**	**0x30**	**0x00**	D1 **0x00** ⇒ **0xFF** Button/Group Number	
					D2 On-Level Switch **0x00** Use On-Level stored in ALDB **0x01** Use On-Level in D3 **0x02** ⇒ **0xFF** Unused	
					D3 **0x00** ⇒ **0xFF** On-Level if D2 = 0x01	
					D4 **0x00** ⇒ **0xFF SA** Command 1 to send	
					D5 **0x00** ⇒ **0xFF SA** Command 2 to send	

ED Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
2886D Icon In-Wall Controller)					D6 Ramp Rate Switch **0x00** Use Ramp Rate stored in ALDB **0x01** Use instant Ramp Rate **0x02** ⇒ **0xFF** Unused
					D7 ⇒ D14 Unused
Trigger ALL-Link Command (SmartLabs 2476S SwitchLinc i2 Relay, 2476ST SwitchLinc i2 Relay Countdown Timer, 2486S KeypadLinc Relay)	**0x02**	**0x0A** **0x0E** **0x0F**	**0x30**	**0x00**	D1 **0x00** ⇒ **0xFF** Button/Group Number
					D2 On-Level Switch **0x00** Use On-Level stored in ALDB **0x01** Use On-Level in D3 **0x02** ⇒ **0xFF** Unused
					D3 **0x00** ⇒ **0xFF** On-Level if D2 = 0x01
					D4 **0x00** ⇒ **0xFF SA** Command 1 to send
					D5 **0x00** ⇒ **0xFF SA** Command 2 to send
					D6 Ramp Rate Switch **0x00** Use Ramp Rate stored in ALDB **0x01** Use instant Ramp Rate **0x02** ⇒ **0xFF** Unused
					D7 ⇒ D14 Unused
Reserved			**0x31** ⇒ **0x3F**		
Set Sprinkler Program	**0x04**	**All**	**0x40**	**0x00** ⇒ **0xFF** Program Number (0x00 is Default Program)	D1 to D14 contain program data to set
Sprinkler Get Program Response [Response to **SD 0x45xx** *Sprinkler Get Program Request*]	**0x04**	**All**	**0x41**	**0x00** ⇒ **0xFF** Program Number (0x00 is Default Program)	Added 5/05/06 D1 to D14 contain program data
Reserved			**0x42** ⇒ **0x4A**		
I/O Set Sensor Nominal	**0x07**	**All**	**0x4B**	**0x00** ⇒ **0xFF** Sensor Number	D1 **0x00** ⇒ **0xFF** Sensor Nominal Value
					D2 ⇒ D14 Unused
I/O Alarm Data Response [Response to **SD 0x4700** *I/O Alarm Data Request*]	**0x07**	**All**	**0x4C**	**0x00**	D1 ⇒ D14 Alarm 1-14 Data
Reserved			**0x4C**	**0x01** ⇒ **0xFF**	
Reserved			**0x4D** ⇒ **0x4F**		
Pool Set Device Temperature	**0x06**	**All**	**0x50**	**0x00**	D1 **0x00** Unused D1 **0x01** Pool D1 **0x02** Spa D1 **0x03** ⇒ **0xFF** Unused
					D2 **0x00** ⇒ **0xFF** Temperature
					D3 ⇒ D14 Unused
Pool Set Device Hysteresis	**0x06**	**All**	**0x50**	**0x01**	D1 **0x00** Unused D1 **0x01** Pool D1 **0x02** Spa D1 **0x03** ⇒ **0xFF** Unused
					D2 **0x00** ⇒ **0xFF** Hysteresis
					D3 ⇒ D14 Unused
Reserved			**0x50**	**0x02** ⇒ **0xFF**	
Reserved			**0x51** ⇒ **0x67**		

ED Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
Thermostat Zone Temperature Up	**0x05**	**All**	**0x68**	**0x00** ⇒ **0xFF** Zone Number	D1 **0x00** ⇒ **0xFF** Temperature Change x 2 D2 ⇒ D14 Unused
Thermostat Zone Temperature Down	**0x05**	**All**	**0x69**	**0x00** ⇒ **0xFF** Zone Number	D1 **0x00** ⇒ **0xFF** Temperature Change x 2 D2 ⇒ D14 Unused
Reserved			**0x6A** ⇒ **0x6B**		
Thermostat Set Zone Cool Setpoint	**0x05**	**All**	**0x6C**	**0x00** ⇒ **0xFF** Zone Number	D1 **0x00** ⇒ **0xFF** Temperature Setpoint x 2 D2 **0x00** ⇒ **0xFF** Deadband x 2 D3 ⇒ D14 Unused
Thermostat Set Zone Heat Setpoint	**0x05**	**All**	**0x6D**	**0x00** ⇒ **0xFF** Zone Number	D1 **0x00** ⇒ **0xFF** Temperature Setpoint x 2 D2 **0x00** ⇒ **0xFF** Deadband x 2 D3 ⇒ D14 Unused
Reserved			**0x6E** ⇒ **0xEF**		
FX Commands	**All**	**All**	**0xF0** ⇒ **0xFF**	User-specific	**FX** These commands only function if *FX Usernames* in a Controller and Responder device match during linking. D1 to D14 are user-specific.

2.2 INSTEON ALL-Link Commands

This section lists **SA** Standard-length and **EA** Extended-length INSTEON ALL-Link Commands in two separate tables. Because **EA** commands are not currently used, the **EA** table is blank.

SA ALL-Link Commands are sent twice, first in an **SA** ALL-Link Broadcast message to all of the members of an ALL-Link Group, followed by separate **SC** ALL-Link Cleanup messages sent to each individual member of the ALL-Link Group.

In the **SA** ALL-Link Broadcast message, the ALL-Link Group Number appears in the *To Address* field, and the *Command 2* field contains 0x00 (with one exception for certain legacy devices as noted in the table below for the *Light Start Manual Change* Command **0x17**).

In **SC** ALL-Link Cleanup messages, the ALL-Link Group Number moves to the *Command 2* field, because the *To Address* field contains the INSTEON Address of the individual ALL-Link Group member.

2.2.1 INSTEON Standard-length ALL-Link Commands

The table below lists the existing INSTEON **SA** Standard-length ALL-Link Commands.

The Note Key **Req-All** denotes INSTEON commands that shall be supported by INSTEON devices in all Device Categories. **Req-All** command names appear in **bold type**.

These same commands are used in both **SA** ALL-Link Broadcast messages and **SC** ALL-Link Cleanup messages.

SA Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
Reserved			**0x00** ⇒ **0x10**	**0x00** for initial **SA** Broadcast, **0x00** ⇒ **0xFF** (Group Number) for **SC** Cleanups	
ALL-Link Recall (Used as *ALL-Link Light ON* by legacy controllers)	**All**	**All**	**0x11**	**0x00** for initial **SA** Broadcast, **0x00** ⇒ **0xFF** (Group Number) for **SC** Cleanups	**Req-All** Responder reverts to state remembered during ALL-Linking.
ALL-Link Alias 2 High (Used as *Light ON Fast* by legacy controllers)	**All**	**All**	**0x12**	**0x00** for initial **SA** Broadcast, **0x00** ⇒ **0xFF** (Group Number) for **SC** Cleanups	Ignore Command unless, if previously set up by default or by using **ED 0x0304** *Set ALL-Link Command Alias*, then execute substitute Direct Command. For DevCats **0X01** and **0x02**, defaults to **SD 0x1200** *Light ON Fast*, which goes to saved *On-Level* instantly.
ALL-Link Alias 1 Low (Used as *Light OFF* by legacy controllers)	**All**	**All**	**0x13**	**0x00** for initial **SA** Broadcast, **0x00** ⇒ **0xFF** (Group Number) for **SC** Cleanups	Ignore Command unless, if previously set up by default or by using **ED 0x0304** *Set ALL-Link Command Alias*, then execute substitute Direct Command. For DevCats **0X01** and **0x02**, defaults to **SD 0x1300** *Light OFF*, which goes full off at saved *Ramp Rate*.

SA Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
ALL-Link Alias 2 Low (Used as *Light OFF Fast* by legacy controllers)	**All**	**All**	**0x14**	**0x00** for initial **SA** Broadcast, **0x00** ⇒ **0xFF** (Group Number) for **SC** Cleanups	Ignore Command unless, if previously set up by default or by using **ED 0x0304** *Set ALL-Link Command Alias*, then execute substitute Direct Command. For DevCats **0X01** and **0x02**, defaults to **SD 0x1400** *Light OFF Fast*, which goes full off instantly.
ALL-Link Alias 3 High (Used as *Light Brighten One Step* by legacy controllers)	**All**	**All**	**0x15**	**0x00** for initial **SA** Broadcast, **0x00** ⇒ **0xFF** (Group Number) for **SC** Cleanups	Ignore Command unless, if previously set up by default or by using **ED 0x0304** *Set ALL-Link Command Alias*, then execute substitute Direct Command. For DevCats **0X01** and **0x02**, defaults to **SD 0x1500** *Light Brighten One Step*. There are 32 steps from off to full brightness.
ALL-Link Alias 3 Low (Used as *Light Dim* by legacy controllers)	**All**	**All**	**0x16**	**0x00** for initial **SA** Broadcast, **0x00** ⇒ **0xFF** (Group Number) for **SC** Cleanups	Ignore Command unless, if previously set up by default or by using **ED 0x0304** *Set ALL-Link Command Alias*, then execute substitute Direct Command. For DevCats **0X01** and **0x02**, defaults to **SD 0x1500** *Light Dim One Step*. There are 32 steps from off to full brightness.
ALL-Link Alias 4 High (Used as *Light Start Manual Change* by legacy controllers)	**All**	**All**	**0x17**	**0x00** for initial **SA** Broadcast, **0x00** ⇒ **0xFF** (Group Number) for **SC** Cleanups **NOTE:** Certain legacy SmartLabs Controllers and Responders (ControLinc V2, SwitchLinc V2, KeypadLinc V2, and LampLinc V2) use this *Command 2* field to hold a *direction* parameter during the **SA** Broadcast. **0x01** means *Increase* and **0x00** means *Decrease*. Those legacy Controllers do *not* follow up the **SA** Broadcast of this Command with an **SC** Cleanup sequence.	Ignore Command unless, if previously set up by default or by using **ED 0x0304** *Set ALL-Link Command Alias*, then execute substitute Direct Command. For DevCats **0X01** and **0x02**, defaults to **SD 0x1700** *Light Start Manual Change*, which starts changing the *On-Level*.
ALL-Link Alias 4 Low (Used as *Light Stop Manual Change* by legacy controllers)	**All**	**All**	**0x18**	**0x00** for initial **SA** Broadcast, **0x00** ⇒ **0xFF** (Group Number) for **SC** Cleanups **NOTE:** Certain legacy SmartLabs Controllers (ControLinc V2, SwitchLinc V2, and KeypadLinc V2) do *not* follow up the **SA** Broadcast of this Command with an **SC** Cleanup sequence.	Ignore Command unless, if previously set up by default or by using **ED 0x0304** *Set ALL-Link Command Alias*, then execute substitute Direct Command. For DevCats **0X01** and **0x02**, defaults to **SD 0x1800** *Light Stop Manual Change*, which stops changing the *On-Level*.
Reserved			**0x19** ⇒ **0x20**	**0x00** for initial **SA** Broadcast, **0x00** ⇒ **0xFF** (Group Number) for **SC** Cleanups	Do not add any new commands in this interval because legacy devices do not parse message type flags or DevCats.

SA Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
ALL-Link Alias 5	**All**	**All**	**0x21**	**0x00** for initial **SA** Broadcast, **0x00** ⇒ **0xFF** (Group Number) for **SC** Cleanups	Ignore Command unless, if previously set up by default or by using **ED 0x0304** *Set ALL-Link Command Alias*, then execute substitute Direct Command. For DevCats **0X01** and **0x02**, defaults to **SD 0x2100** *Light Instant Change*, which restores light to *On-Level* in ALL-Link Database at next zero crossing. [Added 20060420]
Reserved			**0x22** ⇒ **0xFF**	**0x00** for initial **SA** Broadcast, **0x00** ⇒ **0xFF** (Group Number) for **SC** Cleanups	

2.2.2 INSTEON Extended-length ALL-Link Commands

The table below lists the existing INSTEON **EA** Extended-length ALL-Link Commands. Because **EA** commands are not currently used, this table is blank.

EA Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
Reserved			**0x00 ⇒ 0xFF**	**0x00** for initial **EA** Broadcast, **0x00 ⇒ 0xFF** (Group Number) for **EC** Cleanups	

2.3 INSTEON Broadcast Commands

This section lists **SB** Standard-length and **EB** Extended-length INSTEON Broadcast Commands in two separate tables. Because **EB** commands are not currently used, the **EB** table is blank.

2.3.1 INSTEON Standard-length Broadcast Commands

The table below lists the existing INSTEON **SB** Standard-length Broadcast Commands.

The Note Key **Req-All** denotes INSTEON commands that shall be supported by INSTEON devices in all Device Categories. **Req-All** command names appear in **bold type**.

The Note Key **Req-Ex** (…) denotes INSTEON commands that shall be supported by INSTEON devices in all Device Categories except as noted within the parentheses. **Req-Ex** command names appear in **bold type**.

The Note Key **Req-DC** denotes INSTEON commands that shall be supported only by those INSTEON devices in the Device Categories given in the **DevCat** and **SubCat** columns. **Req-DC** command names appear in underlined type.

SB Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
Reserved			**0x00**		
SET Button Pressed Responder	**All**	**All**	**0x01**	Reserved (Set to **0xFF**)	**Req-Ex** (Required for Responder-only or Controller/Responder devices) Possible Linking Mode for a Responder or Controller/Responder device. Every INSTEON device must send *either* **SB 0x01** or **SB 0x02**
SET Button Pressed Controller	**All**	**All**	**0x02**	Reserved (Set to **0xFF**)	**Req-Ex** (Required for Controller-only devices) Possible Linking Mode for a Controller-only device. Every INSTEON device must send *either* **SB 0x01** or **SB 0x02**
Test Powerline Phase (Only sent by i2/RF devices, with *Max Hops* = 0)	**All**	**All**	**0x03**	**0x00**	Sender is on powerline phase A (low cycle). Receiver blinks LED fast for 10 seconds if on same phase. Receiver blinks LED slow for 10 seconds if on opposite phase.
				0x01	Sender is on powerline phase B (high cycle). Receiver blinks LED fast for 10 seconds if on same phase. Receiver blinks LED slow for 10 seconds if on opposite phase.
Reserved			**0x03**	**0x03 ⇒ 0xFF**	
Heartbeat (SmartLabs 2843 RemoteLinc)	**0x00**	**0x05**	**0x04**	**0x00 ⇒ 0xFF** Battery Level	**Req-DC** Periodic broadcast set up using **ED 0x2E** *Extended Set/Get*
Reserved			**0x05 ⇒ 0x26**		
Device Status Changed	**All**	**All**	**0x27**	Reserved (Set to **0xFF**)	Sent by a device when its status changes
Reserved			**0x28 ⇒ 0x48**		

SB Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
SALad Debug Report	**All**	**All**	**0x49**	**0x00 ⇒ 0xFF** Not Parsed	**Req-Ex** (Only required for SALad-enabled devices) The two low bytes of the *To Address* contain the high and low bytes of the Program Counter for a SALad program being remotely debugged.
Reserved			**0x4A ⇒ 0xFF**		

2.3.2 INSTEON Extended-length Broadcast Commands

The table below lists the existing INSTEON **EB** Extended-length Broadcast Commands. Because **EB** commands are not currently used, this table is blank.

EB Commands	**Dev Cat**	**Sub Cat**	**Cmd 1**	**Cmd 2**	**Note Keys, Description**
Reserved			**0x00 ⇒ 0xFF**		