Lync 6 & Lync 12
Serial Commands/Protocol

Contents

Hardware/Serial Port Info

Serial Port Info :

Baud rate	: 38400 bps
Data Bit	: 8 Bits
Stop Bit	: 1 Bit
Parity	: None
Flow Control	: No

Connector & Pin Info :

NX16P Connector	: 9-pin female DB
PC Connector	: 9-pin male DB

PC		Lync6 and Lync12 Audio Controller
Pin 2 RxD	<----------	TxD Pin 2
Pin 3 TxD	---------->	RxD Pin 3
Pin 5 Gnd	----------	Gnd Pin 5

Commands/Protocol Information

Commands Sent from PC to Lync (aka Commands)

Protocol :
Head + Reserved Byte + Zone Address + Command + Data + Checksum
Checksum = Head + Reserved Byte + Zone Address + Command + Data

Head Code : 1 byte 0x02
Reserved Byte : 1 byte t 0x00
Zone Address : 1 byte

Broadcast : 0

Zone 1 : 1
Zone 2 : 2
Zone 3 : 3
Zone 4 : 4
Zone 5 : 5
Zone 6 : 6
Zone 7 : 7
Zone 8 : 8
Zone 9 : 9
Zone 10 : 10
Zone 11 : 11
Zone 12 : 12

Lync6 zone address range : 1 ~ 6
Lync12 zone address range : 1 ~ 12

Command : 1 byte
MP3 Repeat Loop Setting Command : 0x01
Common Command : 0x04
Query All Zone Status : 0x05
Zone Name Setting : 0x06
Source Name Setting : 0x07
Query ID Code : 0x08

Recall File : 0x0A
Save File : 0x0B
Query All Zone Status : 0x0C
Query Zone Name : 0x0D
Query Zone Source Name : 0x0E
Volume Setting Control : 0x15
Balance Setting Control : 0x16
Treble Setting Control : 0x17
Bass Setting Control : 0x18
Set Audio To Default : 0x1C
Set Name To Default : 0x1E

Data : 1 byte

Checksum :
Checksum = Head Code + Reserved Byte + Zone Address + Command + Data_X +

MP3 Repeat Loop On/Off

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0

Command(1 byte) : 0x01
Data (1 byte) : 0xFF (On) 0x00(Off)

Example:
MP3 Repeat Loop On : 0x02 + 0x00 + 0x00 + 0x01 + 0xFF + Checksum
MP3 Repeat Loop Off : 0x02 + 0x00 + 0x00 + 0x01 + 0x00 + Checksum

MP3 Play Function

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0
Command(1 byte) : 0x01
Data (1 byte) : FF (0x0A), PP(0x0B) , FB(0x0C) , STOP(0x0D)

Example:
MP3 FF : 0x02 + 0x00 + 0x00 + 0x04 + 0x0A + Checksum
MP3 PP : 0x02 + 0x00 + 0x00 + 0x04 + 0x0B + Checksum
MP3 FB : 0x02 + 0x00 + 0x00 + 0x04 + 0x0C + Checksum
MP3 STOP : 0x02 + 0x00 + 0x00 + 0x04 + 0x0D + Checksum

Power ALL On/Off

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0 ~ 12
Command(1 byte) : 0x04
Data (1 byte) : 0x55 (On) 0x56(Off)

Example:
Power ALL On : 0x02 + 0x00 + 0x00 + 0x04 + 0x55 + Checksum
Power ALL Off : 0x02 + 0x00 + 0x00 + 0x04 + 0x56 + Checksum

Power On/Off

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0 ~ 12
Command(1 byte) : 0x04
Data (1 byte) : 0x57 (On) 0x58(Off)

Example:
Zone1 Power On : 0x02 + 0x00 + 0x01 + 0x04 + 0x57 + Checksum
Zone1 Power Off : 0x02 + 0x00 + 0x01 + 0x04 + 0x58 + Checksum

Note: If zone address is 0 for broadcast, this command turns all on/off and response is same as "Power All On/Off" above
- If zone address is specific, response is just cmd 0x05 for that zone (14 bytes)
- there is NO response if the value is already at the desired value

Mute On/Off

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0 ~ 12
Command(1 byte) : 0x04
Data (1 byte) : 0x1E(On) , 0x1F(Off)

Example:
Zone1 Mute On : 0x02 + 0x00 + 0x01 + 0x04 + 0x1E + Checksum
Zone1 Mute Off : 0x02 + 0x00 + 0x01 + 0x04 + 0x1F + Checksum

DND On/Off

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0 ~ 12
Command(1 byte) : 0x04
Data (1 byte) : 0x59(On) , 0x5A(Off)

Example:
Zone1 DND On : 0x02 + 0x00 + 0x01 + 0x04 + 0x59 + Checksum
Zone1 DND Off : 0x02 + 0x00 + 0x01 + 0x04 + 0x5A + Checksum

Input Source Select

Note: In addition to setting the input source for a specific zone, sending an Input Source Select command to the Lync will also result in the selected zone getting turned on.

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0 ~ 12
Command(1 byte) : 0x04
Data (1 byte) : 0x10 ~ 0x1B, 0x63 ~ 0x68

Input Source Table :

Data	Input #	Remark
0x10	Input 1	Lync 6 & Lync 12
0x11	Input 2	Lync 6 & Lync 12
0x12	Input 3	Lync 6 & Lync 12
0x13	Input 4	Lync 6 & Lync 12
0x14	Input 5	Lync 6 & Lync 12
0x15	Input 6	Lync 6 & Lync 12
0x16	Input 7	Lync 6 & Lync 12
0x17	Input 8	Lync 6 & Lync 12
0x18	Input 9	Lync 6 & Lync 12
0x19	Input 10	Lync 6 & Lync 12
0x1A	Input 11	Lync 6 & Lync 12
0x1B	Input 12	Lync 6 & Lync 12
0x63	Input 13	Lync 12
0x64	Input 14	Lync 12
0x65	Input 15	Lync 12
0x66	Input 16	Lync 12
0x67	Input 17	Lync 12
0x68	Input 18	Lync 12

Example:
Zone1 Source 1 : 0x02 + 0x00 + 0x01 + 0x04 + 0x10 + Checksum
Zone2 Source 2 : 0x02 + 0x00 + 0x02 + 0x04 + 0x11 + Checksum
Zone3 Source 3 : 0x02 + 0x00 + 0x03 + 0x04 + 0x12 + Checksum
Zone4 Source 4 : 0x02 + 0x00 + 0x04 + 0x04 + 0x13 + Checksum
Zone5 Source 5 : 0x02 + 0x00 + 0x05 + 0x04 + 0x14 + Checksum
Zone6 Source 6 : 0x02 + 0x00 + 0x06 + 0x04 + 0x15 + Checksum
Zone7 Source 7 : 0x02 + 0x00 + 0x07 + 0x04 + 0x16 + Checksum
Zone8 Source 8 : 0x02 + 0x00 + 0x08 + 0x04 + 0x17 + Checksum
Zone9 Source 9 : 0x02 + 0x00 + 0x09 + 0x04 + 0x18 + Checksum
Zone10 Source 10 : 0x02 + 0x00+ 0x0A + 0x04 + 0x19 + Checksum
Zone11 Source 11 : 0x02 + 0x00 + 0x0B + 0x04 + 0x1A + Checksum
Zone12 Source 12 : 0x02 + 0x00 + 0x0C + 0x04 + 0x1B + Checksum
Zone1 Source 13 : 0x02 + 0x00 + 0x01 + 0x04 + 0x63 + Checksum
Zone2 Source 14 : 0x02 + 0x00 + 0x02 + 0x04 + 0x64 + Checksum
Zone3 Source 15 : 0x02 + 0x00 + 0x03 + 0x04 + 0x65 + Checksum
Zone4 Source 16 : 0x02 + 0x00 + 0x04 + 0x04 + 0x66 + Checksum

Note:
- response is cmd 0x05 for the particular zone (14 bytes)
- there is NO response if the input is already at the desired source
- there is NO response and the physical keypad doesn't show a source name if the source number is out of range

Party Mode Input Source Select

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0 ~ 12
Command(1 byte) : 0x04
Data (1 byte) : 0x36 ~ 0x41, 0x69 ~ 0x6E

Party Mode Input Source Table :

Data	Party Mode Input	Remark
0x36	Party Mode INPUT 1	Lync 6 & Lync 12
0x37	Party Mode INPUT 2	Lync 6 & Lync 12
0x38	Party Mode INPUT 3	Lync 6 & Lync 12
0x39	Party Mode INPUT 4	Lync 6 & Lync 12
0x3A	Party Mode INPUT 5	Lync 6 & Lync 12
0x3B	Party Mode INPUT 6	Lync 6 & Lync 12
0x3C	Party Mode INPUT 7	Lync 6 & Lync 12
0x3D	Party Mode INPUT 8	Lync 6 & Lync 12
0x3E	Party Mode INPUT 9	Lync 6 & Lync 12
0x3F	Party Mode INPUT 10	Lync 6 & Lync 12
0x40	Party Mode INPUT 11	Lync 6 & Lync 12
0x41	Party Mode INPUT 12	Lync 6 & Lync 12
0x69	Party Mode INPUT 13	Lync 12
0x6A	Party Mode INPUT 14	Lync 12
0x6B	Party Mode INPUT 15	Lync 12
0x6C	Party Mode INPUT 16	Lync 12
0x6D	Party Mode INPUT 17	Lync 12
0x6E	Party Mode INPUT 18	Lync 12

Example:
Party Mode Source 1 : 0x02 + 0x00 + 0x01 + 0x04 + 0x36 + Checksum
Party Mode Source 2 : 0x02 + 0x00 + 0x02 + 0x04 + 0x37 + Checksum
Party Mode Source 3 : 0x02 + 0x00 + 0x03 + 0x04 + 0x38 + Checksum
Party Mode Source 4 : 0x02 + 0x00 + 0x04 + 0x04 + 0x39 + Checksum
Party Mode Source 5 : 0x02 + 0x00 + 0x05 + 0x04 + 0x3A + Checksum
Party Mode Source 6 : 0x02 + 0x00 + 0x06 + 0x04 + 0x3B + Checksum
Party Mode Source 7 : 0x02 + 0x00 + 0x07 + 0x04 + 0x3C + Checksum
Party Mode Source 8 : 0x02 + 0x00 + 0x08 + 0x04 + 0x3D + Checksum
Party Mode Source 9 : 0x02 + 0x00 + 0x09 + 0x04 + 0x3E + Checksum
Party Mode Source 10 : 0x02 + 0x00+ 0x0A + 0x04 + 0x3F + Checksum
Party Mode Source 11 : 0x02 + 0x00 + 0x0B + 0x04 + 0x40 + Checksum
Party Mode Source 12 : 0x02 + 0x00 + 0x0C + 0x04 + 0x41 + Checksum
Party Mode Source 13 : 0x02 + 0x00 + 0x0D + 0x04 + 0x69 + Checksum
Party Mode Source 14 : 0x02 + 0x00 + 0x0E + 0x04 + 0x6A + Checksum
Party Mode Source 15 : 0x02 + 0x00 + 0x0F + 0x04 + 0x6B + Checksum
Party Mode Source 16 : 0x02 + 0x00 + 0x10 + 0x04 + 0x6C + Checksum
Party Mode Source 17 : 0x02 + 0x00 + 0x10 + 0x04 + 0x6D + Checksum
Party Mode Source 18 : 0x02 + 0x00 + 0x10 + 0x04 + 0x6E + Checksum

Query All Zone Status

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0
Command(1 byte) : 0x05
Data (1 byte) : 0x00

Example:
Query All Zone Status : 0x02 + 0x00 + 0x00 + 0x05 + 0x00 + Checksum
Echo Data : Echo All Zone Status.
Reply format reference the “Tx Format” “Zone Internal Status”

Zone Name Setting

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 1 ~ 12
Command(1 byte) : 0x06
Data1 : 0x00
Data2 ~ Data 12 : ASCII char string (10 chars max)
Data13 : 0x00

Example:
Set Zone 1 Name “Zone1” : 0x02 + 0x00 + 0x01 + 0x06 + 0x00 + 0x5A + 0x6F + 0x6E + 0x65 + 0x20 + 0x30 + 0x00 + 0x00 + 0x00 + 0x00 + 0x00 + Checksum

Source Name Setting

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 1 ~ 12
Command(1 byte) : 0x07
Data1 : 1 ~ 18 (Source address)
Data2 ~ Data 12 : ASCII char string (10 chars max)
Data13 : 0x00

Example:
Set Zone 1 Input 1 Name “DVD” : 0x02 + 0x00 + 0x01 + 0x07 + 0x01 + 0x44 + 0x56 + 0x44 + 0x00 + 0x00 + 0x00 + 0x00 + 0x00 + 0x00 + 0x00 + 0x00 +0x00 + Checksum

Note: Each Zone has its own set of Source Names that can be set.

Query ID

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0x00
Command(1 byte) : 0x08
Data (1 byte) : 0x00

Example:
Query ID : 0x02 + 0x00 + 0x00 + 0x08 + 0x00 + Checksum
Reply Data : “Lync6” or “Lync12”

Recall File

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0x00
Command(1 byte) : 0x0A
Data (1 byte) : 1 ~ 4

Example:
Recall File 1 : 0x02 + 0x00 + 0x00 + 0x0A + 0x01 + Checksum

Save File

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0x00
Command(1 byte) : 0x0B
Data (1 byte) : 1 ~ 4

Example:
Save File 1 : 0x02 + 0x00 + 0x00 + 0x0B + 0x01 + Checksum

Query All Zone Status

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 1 ~ 6(Lync6), 1 ~ 12(Lync12)
Command(1 byte) : 0x0C
Data (1 byte) : 0x00

Example:
Query Zone1 Status : 0x02 + 0x00 + 0x01 + 0x0C + 0x00 + Checksum
Echo Data :

1. Echo All Zone Status.
2. Echo All Zone Name.
3. Echo All Source Name
4. Echo MP3 On/Off
5. Echo MP3 File Name and Artist Name

Query Zone Name

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 1 ~ 6(Lync6), 1 ~ 12(Lync12)
Command(1 byte) : 0x0D
Data (1 byte) : 0x00

Example:
Query Zone1 Status : 0x02 + 0x00 + 0x01 + 0x0D + 0x00 + Checksum
Echo Data : Echo Zone Name

Query Source Name

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 1 ~ 6(Lync6), 1 ~ 12(Lync12)
Command(1 byte) : 0x0E
Data (1 byte) : 0x00

Example:
Query Zone1 Source1 Name : 0x02 + 0x00 + 0x01 + 0x0C + 0x01 + Checksum
Echo Data : Echo Zone Source Name

Volume Setting Value Control

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0 ~ 16
Command(1 byte) : 0x15
Data (1 byte) : 0x00~ 0x43(+0dB ~ -61dB)

Example:
Zone1 Volume 0 : 0x02 + 0x00 + 0x01 + 0x15 + 0x80 + Checksum
Zone1 Volume -10 : 0x02 + 0x00 + 0x01 + 0x15 + 0x76 + Checksum
Zone1 Volume -20 : 0x02 + 0x00 + 0x01 + 0x15 + 0x6C + Checksum
Zone1 Volume -61 : 0x02 + 0x00 + 0x01 + 0x15 + 0x43 + Checksum

Volume Table :

Volume	Data
0	0x80
-1	0x7F
-2	0x7E
-3	0x7D
-4	0x7C
-5	0x7B
-6	0x7A
-7	0x79
-8	0x78
-9	0x77
-10	0x76
-11	0x75
-12	0x74
-13	0x73
-14	0x72

-15	0x71
-16	0x70
-17	0x6F
-18	0x6E
-19	0x6D
-20	0x6C
-21	0x6B
-22	0x6A
-23	0x69
-24	0x68
-25	0x67
-26	0x66
-27	0x65
-28	0x64
-29	0x63
-30	0x62
-31	0x61
-32	0x60
-33	0x5F
-34	0x5E
-35	0x5D
-36	0x5C
-37	0x5B
-38	0x5A
-39	0x59
-40	0x58
-41	0x57
-42	0x56
-43	0x55
-44	0x54
-45	0x53
-46	0x52
-47	0x51
-48	0x50
-49	0x4F
-50	0x4E
-51	0x4D
-52	0x4C
-53	0x4B
-54	0x4A
-55	0x49
-56	0x48
-57	0x47
-58	0x46
-59	0x45
-60	0x44
-61	0x43

Balance Setting Control

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0 ~ 12
Command(1 byte) : 0x16
Data (1 byte) : 0x92 ~ 0x6E(+18dB ~ -18dB)

Example:
Zone1 Balance +18 : 0x02 + 0x00 + 0x01 + 0x04 + 0x92 + Checksum
Zone1 Balance 0 : 0x02 + 0x00 + 0x01 + 0x04 + 0x80 + Checksum
Zone1 Balance -18 : 0x02 + 0x00 + 0x01 + 0x04 + 0x6E + Checksum

Balance Table :

Balance Setting	Data
+18	0x92
+17	0x91
+16	0x90
+15	0x8F
+14	0x8E
+13	0x8D
+12	0x8C
+11	0x8B
+10	0x8A
+9	0x89
+8	0x88
+7	0x87
+6	0x86
+5	0x85
+4	0x84
+3	0x83
+2	0x82
+1	0x81
0	0x80
-1	0x7F
-2	0x7E
-3	0x7D
-4	0x7C
-5	0x7B
-6	0x7A
-7	0x79
-8	0x78
-9	0x77
-10	0x76
-11	0x75
-12	0x74
-13	0x73
-14	0x72
-15	0x71
-16	0x70
-17	0x6F
-18	0x6E

Treble Setting Control

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0 ~ 12
Command(1 byte) : 0x17
Data (1 byte) : 0x76 ~ 0x8A(+10dB ~ -10dB)

Example:
Zone1 Treble +10 : 0x02 + 0x00 + 0x01 + 0x17 + 0x8A + Checksum
Zone1 Treble 0 : 0x02 + 0x00 + 0x01 + 0x17 + 0x80 + Checksum
Zone1 Treble -10 : 0x02 + 0x00 + 0x01 + 0x17 + 0x76 + Checksum

Treble Table :

Treble Setting	Data
+10	0x8A
+9	0x89
+8	0x88
+7	0x87
+6	0x86
+5	0x85
+4	0x84
+3	0x83
+2	0x82
+1	0x81
0	0x80
-1	0x7F
-2	0x7E
-3	0x7D
-4	0x7C
-5	0x7B
-6	0x7A
-7	0x79
-8	0x78
-9	0x77
-10	0x76

Bass Setting Control

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0 ~ 12
Command(1 byte) : 0x18
Data (1 byte) : 0x76 ~ 0x8A(+10dB ~ -10dB)

Example:
Zone1 Bass +10 : 0x02 + 0x00 + 0x01 + 0x18 + 0x8A + Checksum

Zone1 Bass 0 : 0x02 + 0x00 + 0x01 + 0x18 +0x80 + Checksum
Zone1 Bass -10 : 0x02 + 0x00 + 0x01 + 0x18 + 0x76 + Checksum

Bass Table :

Bass Setting	Data
+10	0x8A
+9	0x89
+8	0x88
+7	0x87
+6	0x86
+5	0x85
+4	0x84
+3	0x83
+2	0x82
+1	0x81
0	0x80
-1	0x7F
-2	0x7E
-3	0x7D
-4	0x7C
-5	0x7B
-6	0x7A
-7	0x79
-8	0x78
-9	0x77
-10	0x76

Set Echo Mode

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0x00
Command(1 byte) : 0x19
Data (1 byte) : 0x00(OFF/Default), 0xFF(ON)

Example:
Echo On : 0x02 + 0x00 + 0x00 + 0x19 + 0xFF + Checksum
Echo Off : 0x02 + 0x00 + 0x00 + 0x19 + 0x00 + Checksum

Note: This command suppresses returned responses from Lync.

Set Zone Name and Source Name To Default

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0
Command(1 byte) : 0x1C
Data (1 byte) : 0x00

Example:
Set To Default : 0x02 + 0x00 + 0x00 + 0x1C + 0x00 + Checksum

Zone Name Default Table :

Zone #	Lync 6 Zone Name	Lync 12 Zone Name
1	Zone 1	Zone 1
2	Zone 2	Zone 2
3	Zone 3	Zone 3
4	Zone 4	Zone 4
5	Zone 5	Zone 5
6	Zone 6	Zone 6
7		Zone 7
8		Zone 8
9		Zone 9
10		Zone 10
11		Zone 11
12		Zone 12

Source Name Default Table :

Source #	Lync 6 Source Name	Lync 12 Source Name
1	Source 1	Source 1
2	Source 2	Source 2
3	Source 3	Source 3
4	Source 4	Source 4
5	Source 5	Source 5
6	Source 6	Source 6
7		Source 7
8		Source 8
9		Source 9
10		Source 10
11		Source 11
12		Source 12
13		Source 13
14		Source 14
15		Source 15
16		Source 16
17		Source 17
18		Source 18

Set Audio To Default

Head(1 byte) : 0x02
Reserved Byte(1 byte) : 0x00
Zone Address(1 byte) : 0 ~ 12
Command(1 byte) : 0x1E
Data (1 byte) : 0x00

Example:
Zone1 Set To Default : 0x02 + 0x00 + 0x01 + 0x1E + 0x00 + Checksum

Set To Default	Data
Input Source	Input 1
Volume	-40dB
Treble	0dB
Bass	0dB
Balance	0dB

Echo Error Status

Echo Data : 0x02 + 0x00 + 0x00 + 0x1B + Error No. + 0x00 + 0x00 + 0x00 + 0x00 + 0x00 + 0x00 + 0x00 + 0x00 + 0x00 + Checksum

Error Table

Error No.	Error Status
1	Volume Setting Range Error
2	Balance Setting Range Error
3	Treble Setting Range Error
4	Bass Setting Range Error

Error No.	Error Status
1	Volume Setting Range Error
2	Balance Setting Range Error
3	Treble Setting Range Error
4	Bass Setting Range Error

Commands Sent from Lync To PC (aka Responses)

Command Format

Head Code + Reserved Byte + Zone Address + Command + Data_1 + Data2 +
Data3 + Data4 + Data5 + Data6 + Data7 + Data8 + Data9 + Check Sum

Head Code : 1 byte 0x02
Reserved Byte : 1 byte 0x00

Zone Address : 1 byte
Broadcast : 0

Zone 1 : 1
Zone 2 : 2
Zone 3 : 3
Zone 4 : 4
Zone 5 : 5
Zone 6 : 6
Zone 7 : 7
Zone 8 : 8
Zone 9 : 9
Zone 10 : 10
Zone 11 : 11
Zone 12 : 12

Lync6 zone address range : 1 ~ 6

Lync12 zone address range : 1 ~ 12

Command : 1 byte
Zone Internal Status: 0x05

Audio and Keypad Exist channel : *0x06*

MP3 Play End : *0x09*

Zone Source Name : 0x0C

Zone Name : 0x0D

MP3 File Name : 0x11

MP3 Artist Name : 0x12

MP3 ON : 0x13

MP3 OFF : 0x14

Data : Different commands with different data length

Checksum :
Checksum = Head Code + Reserved Byte + Zone Address + Command + Data_X +

Function Code	Function Name	Data Length or "Tx String"	Zone Address
0x05	Zone Internal Status	9	Zone
0x06	Audio & Keypad Exist Channel	9	0
0x09	MP3 Play End	""	0
0x0c	Zone Source Name	11	Zone
0x0D	Zone Name	11	Zone
0x11	MP3 File Name	Max. 64	0
0x12	MP3 Artist Name	Max. 64	0
0x13	MP3 ON	""	0
0x14	MP3 OFF	"Device Not Found"	0

Zone Internal Status

Head(1 byte) : 0x02
Reserved(1 byte) : 0x00
Zone Address(1 byte) : 0(Broadcast) , 1 – 6(Lync6) , 1 – 12(Lync12)
Command(1 byte) : 0x05

Data1(1 byte) :

Bit	Function	Remark
0	Power ON/OFF	0: OFF 1: ON
1	Mute ON/OFF	0: OFF 1: ON
2	DND ON/OFF	0: OFF 1: ON
3 ~ 7		

Data2(1 byte) :

Bit	Function	Remark
7	All ON	0: OFF 1: ON
6	All OFF	0: OFF 1: ON
5	Party Mode	0: OFF 1: ON
0 ~ 4		

Data3(1 byte) :

Bit	Function	Remark
0 ~ 3		
4	MP3 Repeat Loop	0: OFF 1: ON
5 ~ 7		

Data4(1 byte) : PARTY MODE

Bit	Function	Remark
0 ~ 3		
4	MP3 Repeat Loop	0: OFF 1: ON
5 ~ 7		

Data5(1 byte) : INPUT PORT

Data Byte	Function	Remark
0x01	Input 1	Lync 6
0x02	Input 2	Lync 6
0x03	Input 3	Lync 6
0x04	Input 4	Lync 6
0x05	Input 5	Lync 6
0x06	Input 6	Lync 6
0x07	Input 7	Lync 6 & Lync 12
0x08	Input 8	Lync 6 & Lync 12
0x09	Input 9	Lync 6 & Lync 12
0x0A	Input 10	Lync 6 & Lync 12
0x0B	Input 11	Lync 6 & Lync 12
0x0C	Input 12	Lync 6 & Lync 12

Data6(1 byte) : VOLUME

Volume	Data
0	0x00
-1	0xFF
-2	0xFE
-3	0xFD
-4	0xFC
-5	0xFB
-6	0xFA
-7	0xF9
-8	0xF8
-9	0xF7
-10	0xF6
-11	0xF5
-12	0xF4
-13	0xF3
-14	0xF2
-15	0xF1
-16	0xF0
-17	0xEF
-18	0xEE
-19	0xED
-20	0xEC
-21	0xEB
-22	0xEA
-23	0xE9
-24	0xE8
-25	0xE7
-26	0xE6
-27	0xE5
-28	0xE4
-29	0xE3
-31	0xE1
-32	0xE0
-33	0xDF
-34	0xDE

-35	0xDD
-36	0xDC
-37	0xDB
-38	0xDA
-39	0xD9
-40	0xD8
-41	0xD7
-42	0xD6
-43	0xD5
-44	0xD4
-45	0xD3
-46	0xD2
-47	0xD1
-48	0xD0
-49	0xCF
-50	0xCE
-51	0xCD
-52	0xCC
-53	0xCB
-54	0xCA
-55	0xC9
-56	0xC8
-57	0xC7
-58	0xC6
-59	0xC5
-60	0xC4
-61	0xC3

Data7(1 byte) : TREBLE

Treble Setting	**Data**
10	0x0A
9	0x09
8	0x08
7	0x07
6	0x06
5	0x05
4	0x04
3	0x03
2	0x02
1	0x01
0	0x00
-1	0xFF
-2	0xFE
-3	0xFD
-4	0xFC
-5	0xFB
-6	0xFA
-7	0xF9
-8	0xF8
-9	0xF7
-10	0xF6

Data8(1 byte) : BASS

Bass Setting	Data
10	0x0A
9	0x09
8	0x08
7	0x07
6	0x06
5	0x05
4	0x04
3	0x03
2	0x02
1	0x01
0	0x00
-1	0xFF
-2	0xFE
-3	0xFD
-4	0xFC
-5	0xFB
-6	0xFA
-7	0xF9
-8	0xF8
-9	0xF7
-10	0xF6

Data9(1 byte) : BALANCE

Balance Left/Right	Data
18	0x12
17	0x11
16	0x10
15	0x0F
14	0x0E
13	0x0D
12	0x0C
11	0x0B
10	0x0A
9	0x09
8	0x08
7	0x07
6	0x06
5	0x05
4	0x04
3	0x03
2	0x02
1	0x01
0	0x00
-1	0xFF
-2	0xFE
-3	0xFD
-4	0xFC
-5	0xFB

-6	0xFA
-7	0xF9
-8	0xF8
-9	0xF7
-10	0xF6
-11	0xF5
-12	0xF4
-13	0xF3
-14	0xF2
-15	0xF1
-16	0xF0
-17	0xEF
-18	0xEE

Checksum(1 byte) : Head + Reserved Byte + Zone Address + Command + Data1 + Data2 + Data3 + Data4 + Data5 + Data6 + Data7 + Data8 + Data9

NOTE: the 0x05 response is only sent back if a zone actually had a change in state. E.g. if one Lync6 zone is "ON" then an "all power on command" will have 5 cmd 0x05 responses (since 5 zones were off)

Lync Audio and Keypad Exist Channel

Head(1 byte) : 0x02
Reserved(1 byte) : 0x00
Zone Address(1 byte) : 0(Broadcast) , 1 – 6(Lync6) , 1 – 12(Lync12)
Command(1 byte) : 0x06
Data1(1 byte) : 0x00

Data2(1 byte) :

Bit	Function	Lync 6	Lync 12
0	Zone 1 Exist	0: NO 1: YES	0: NO 1: YES
1	Zone 2 Exist	0: NO 1: YES	0: NO 1: YES
2	Zone 3 Exist	0: NO 1: YES	0: NO 1: YES
3	Zone 4 Exist	0: NO 1: YES	0: NO 1: YES
4	Zone 5 Exist	0: NO 1: YES	0: NO 1: YES
5	Zone 6 Exist	0: NO 1: YES	0: NO 1: YES
6	Zone 7 Exist	0	0: NO 1: YES
7	Zone 8 Exist	0	0: NO 1: YES

Data3(1 byte) :

Bit	Function	Lync 6	Lync 12
0	Zone 1 Keypad Exist	0: NO 1: YES	0: NO 1: YES
1	Zone 2 Keypad Exist	0: NO 1: YES	0: NO 1: YES
2	Zone 3 Keypad Exist	0: NO 1: YES	0: NO 1: YES
3	Zone 4 Keypad Exist	0: NO 1: YES	0: NO 1: YES
4	Zone 5 Keypad Exist	0: NO 1: YES	0: NO 1: YES
5	Zone 6 Keypad Exist	0: NO 1: YES	0: NO 1: YES
6	Zone 7 Keypad Exist	0	0: NO 1: YES
7	Zone 8 Keypad Exist	0	0: NO 1: YES

Data4(1 byte) :

Bit	Function	Lync 6	Lync 12
0	Zone 9 Exist	0	0: NO 1: YES
1	Zone 10 Exist	0	0: NO 1: YES
2	Zone 11 Exist	0	0: NO 1: YES
3	Zone 12 Exist	0	0: NO 1: YES
4		0	0
5		0	0
6		0	0
7		0	0

Data5(1 byte) :

Bit	Function	Lync 6	Lync 12
0	Zone 9 Exist	0	0: NO 1: YES
1	Zone 10 Exist	0	0: NO 1: YES
2	Zone 11 Exist	0	0: NO 1: YES
3	Zone 12 Exist	0	0: NO 1: YES
4		0	0
5		0	0
6		0	0
7		0	0

Data6(1 byte) : 0x00
Data7(1 byte) : 0x00
Data8(1 byte) : 0x00
Data9(1 byte) : 0x00

Checksum(1 byte) : Head + Reserved Byte + Zone Address + Command + Data1 + Data2 + Data3 + Data4 + Data5 + Data6 + Data7 + Data8 + Data9

MP3 Play End Stop

Head(1 byte) : 0x02
Reserved(1 byte) : 0x00
Zone Address(1 byte) : 0x00
Data(1 byte) : 0x00
Command(1 byte) : 0x09
Checksum(1 byte) : Head + Reserved Byte + Zone Address + Command + Data

Zone Source Name

Head(1 byte) : 0x02
Reserved(1 byte) : 0x00
Zone Address(1 byte) : 0x00
Data(12 byte) : char string
Command(1 byte) : 0x0C

Data1 ~ Data11 : indicator source name string
Data12 : indicator INPUT channel
Checksum(1 byte) : Head + Reserved Byte + Zone Address + Command + Data1 + Data2 + Data3 + Data4 + Data5 + Data6 + Data7 + Data8 + Data9 + Data10 + Data11 + Data12

Zone Name

Head(1 byte) : 0x02
Reserved(1 byte) : 0x00
Zone Address(1 byte) : 0x00
Data(12 byte) : char string
Command(1 byte) : 0x0D
Data1 ~ Data11 : indicator ZONE name string
Data12 : indicator ZONE address
Checksum(1 byte) : Head + Reserved Byte + Zone Address + Command + Data1 + Data2 + Data3 + Data4 + Data5 + Data6 + Data7 + Data8 + Data9 + Data10 + Data11 + Data12

MP3 File Name

Head(1 byte) : 0x02
Reserved(1 byte) : 0x00
Zone Address(1 byte) : 0x00
Data(1~64 byte) : char string(by 0x00 to end)
Command(1 byte) : 0x011
Checksum(1 byte) : Head + Reserved Byte + Zone Address + Command + (Data1 ~ Data64 + 0x00)

MP3 Artist Name

Head(1 byte) : 0x02
Reserved(1 byte) : 0x00
Zone Address(1 byte) : 0x00
Data(1~64 byte) : char string(by 0x00 to end)
Command(1 byte) : 0x012
Checksum(1 byte) : Head + Reserved Byte + Zone Address + Command + (Data1 ~ Data64 + 0x00)

MP3 ON

Head(1 byte) : 0x02
Reserved(1 byte) : 0x00
Zone Address(1 byte) : 0x00
Data(1 byte) : 0x00
Command(1 byte) : 0x13
Checksum(1 byte) : Head + Reserved Byte + Zone Address + Command + Data

MP3 OFF

Head(1 byte) : 0x02
Reserved(1 byte) : 0x00
Zone Address(1 byte) : 0x00
Data(17 byte) : "Device Not Found"
Command(1 byte) : 0x14
Checksum(1 byte) : Head + Reserved Byte + Zone Address + Command + Data1 ~ Data17