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| **SW Project (KB) TCP COM PROTOCOL**  Author : Seung Uk, Ha  Revision Date : 2024.10.09 |

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| **TCP Settings** |
| IP: 127.0.0.1  Port : 5555  Server to Client: 0x01  Client to Server: 0x02 |
| **Packet Properties** |
| Byte Order : Little Endian  Len = Packet Length - 5  Checksum = ~sum(ID ~ Reserved) + 1  Lowest byte applied when Checksum value exceeds 0xFF. |

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| **Client -> Server** |

**PID(01) : STT**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0 | 1 | 2 | 3 | 4 ~ … | … |
| Start Byte | ID | PID | Length | Data | CS |
| 0xFF | 0x02 | 0x01 | length of recognized text | bytes of recognized text |  |

**PID(02) : Emotion Detection**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0 | 1 | 2 | 3 | 4 | 5 |
| Start Byte | ID | PID | Length | Data | CS |
| 0xFF | 0x02 | 0x02 | 1 | 0 ~ 6 |  |

**PID(03) : Object Detection**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0 | 1 | 2 | 3 | 4 ~ … | … |
| Start Byte | ID | PID | Length | Data | CS |
| 0xFF | 0x02 | 0x03 | length of recognized object’s array | bytes of recognized object’s array |  |

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| **Index of Class** | | | |
| **0 ~ 9** | **10 ~ 19** | **20 ~ 29** | **30 ~ 39** |
| 사람 (person)  자전거 (bicycle)  자동차 (car)  오토바이 (motorcycle)  비행기 (airplane)  버스 (bus)  기차 (train)  트럭 (truck)  배 (boat)  신호등 (traffic light) | 소방전 (fire hydrant)  정지 표지판 (stop sign)  주차 미터기 (parking meter)  벤치 (bench)  새 (bird)  고양이 (cat)  개 (dog)  말 (horse)  양 (sheep)  소 (cow) | 코끼리 (elephant)  곰 (bear)  얼룩말 (zebra)  기린 (giraffe)  배낭 (backpack)  우산 (umbrella)  핸드백 (handbag)  넥타이 (tie)  여행 가방 (suitcase)  프리즈비 (frisbee) | 스키 (skis)  스노보드 (snowboard)  스포츠공 (sports ball)  연 (kite)  야구 방망이 (baseball bat)  야구 글러브 (baseball glove)  스케이트보드 (skateboard)  서핑보드 (surfboard)  테니스 라켓 (tennis racket)  병 (bottle) |
| **40 ~ 49** | **50 ~ 59** | **60 ~ 69** | **70 ~ 79** |
| 와인잔 (wine glass)  컵 (cup)  포크 (fork)  칼 (knife)  숟가락 (spoon)  그릇 (bowl)  바나나 (banana)  사과 (apple)  샌드위치 (sandwich)  오렌지 (orange) | 브로콜리 (broccoli)  당근 (carrot)  핫도그 (hot dog)  피자 (pizza)  도넛 (donut)  케이크 (cake)  의자 (chair)  소파 (couch)  화분 (potted plant)  침대 (bed) | 식탁 (dining table)  변기 (toilet)  TV (tv)  노트북 (laptop)  마우스 (mouse)  리모컨 (remote)  키보드 (keyboard)  휴대폰 (cell phone)  전자레인지 (microwave)  오븐 (oven) | 토스터 (toaster)  싱크대 (sink)  냉장고 (refrigerator)  책 (book)  시계 (clock)  꽃병 (vase)  가위 (scissors)  곰인형 (teddy bear)  헤어드라이어 (hair drier)  칫솔 (toothbrush) |

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| **Server -> Client** |

**PID(01) : TTS**

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| --- | --- | --- | --- | --- | --- |
| 0 | 1 | 2 | 3 | 4 ~ … | … |
| Start Byte | ID | PID | Length | Data | CS |
| 0xFF | 0x01 | 0x01 | length of text | bytes of text |  |