# RS232 Protocol

RS232 Cable

- Using RS232 Cable
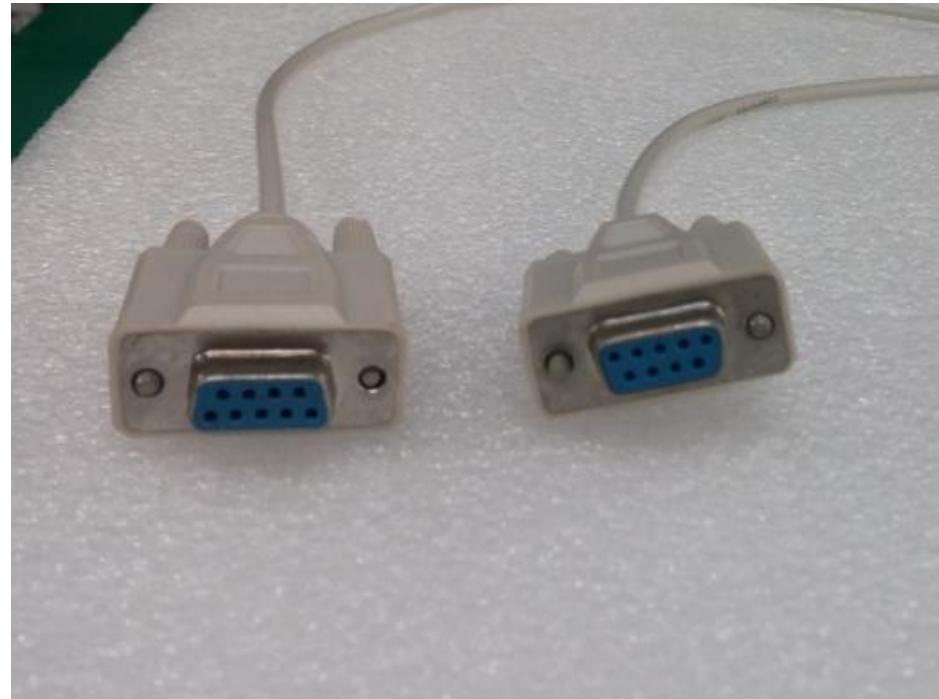
RS232 Port Schematic

- RS232 Input Schematic
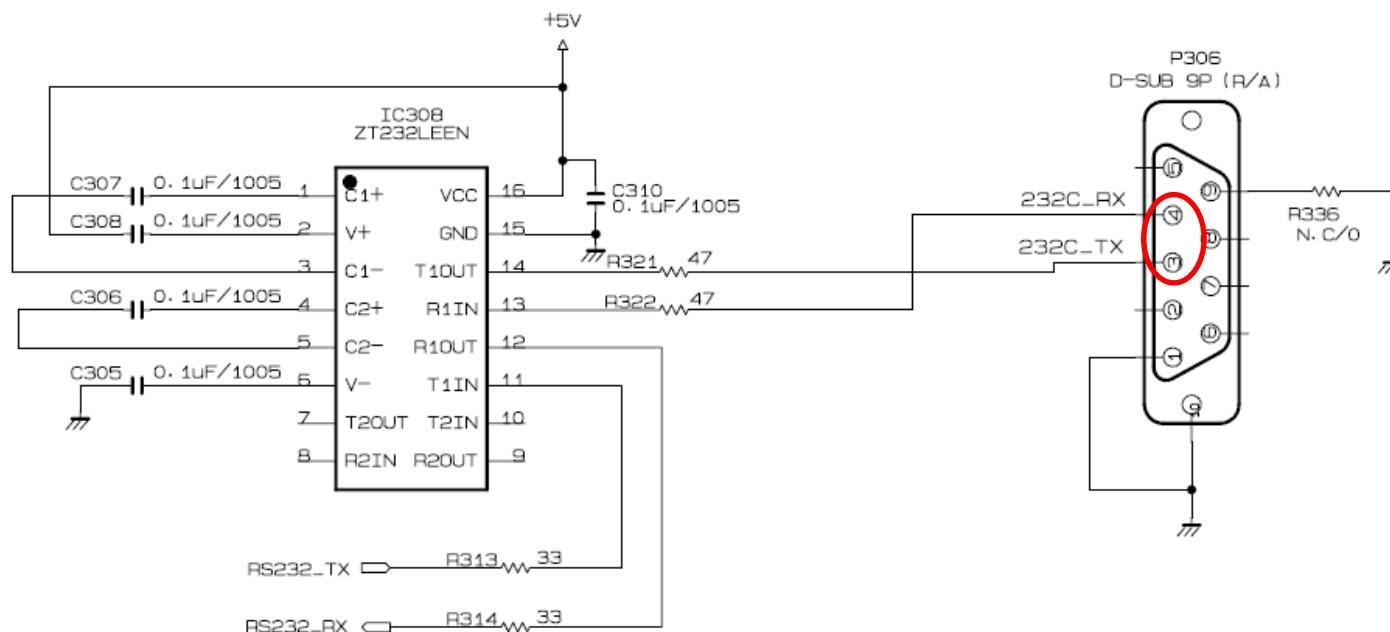
RS232 Command:

1.The virtual serial port should be configured as follows.
  Bits per second – 19200
  Data bits – 8
  Parity – None
  Stop bits – 1
  Flow control – None

2. An explanation of the content transmitted to the display
  Tx: [line 1] BE EF 03 19 00 HH HH II JJ JJ CC CC FF FF FF FF
  Tx: [line 2] KK 00 00 00 CC CC CC CC CC CC CC CC CC CC CC CC
  BE EF – signifies the beginning of the transmission (always BE EF)
  03 – indicates the packet type (typically 03 in this application)
  19 00 – indicates the packet length (typically 19 00 in this application)
  HH HH – gives the calculated CRC checksum for the transmission
  II – gives the operation type
  JJ JJ – gives the operation name (least significant byte is on the left)
  KK – gives the operation value
  All CC, FF, or 00 – not applicable... always CC, FF or 00 as indicated

RS232 Program Protocol

- Command List
  - Power on:
    BEEF$03$19$00$00$00$01$00$02$01$00$00$00$00$00$00$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - Power off
    BEEF$03$19$00$00$00$01$00$02$01$00$00$00$00$00$04$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - change to AUTO
    BEEF$03$19$00$00$00$01$49$10$01$00$00$00$00$00$00$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - change to VGA
    BEEF$03$19$00$00$00$01$49$10$01$00$00$00$00$01$00$00$00$CCCCCCCCCCCCCCCCCCCCCC$CC
  - change to HDMI
    BEEF$03$19$00$00$00$01$49$10$01$00$00$00$00$02$00$00$00$CCCCCCCCCCCCCCCCCCCCCC$CC
  - change to DVI
    BEEF$03$19$00$00$00$01$49$10$01$00$00$00$00$03$00$00$00$CCCCCCCCCCCCCCCCCCCCCC$CC

RS232 Program Protocol

- Command List
  - Auto Adjust
    BEEF$03$19$00$00$00$01$02$01$01$00$00$00$00$00$01$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - Lock Power
    BEEF$03$19$00$00$00$01$01$01$01$00$00$00$00$00$01$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - Unlock Power
    BEEF$03$19$00$00$00$01$01$01$01$00$00$00$00$00$02$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - Lock OSD
    BEEF$03$19$00$00$00$01$01$01$01$00$00$00$00$00$03$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - Unlock OSD
    BEEF$03$19$00$00$00$01$01$01$01$00$00$00$00$00$04$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - Lock Remocon
    BEEF$03$19$00$00$00$01$01$01$01$00$00$00$00$00$05$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC

RS232 Program Protocol

- Command List
    - Unlock Remocon
    BEEF$03$19$00$00$00$01$01$01$01$00$00$00$00$00$06$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
    - Factory Reset
    BEEF$03$19$00$00$00$01$03$04$01$00$00$00$00$00$01$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
    - OSD TIMEOUT
    BEEF$03$19$00$00$00$01$03$03$01$00$00$00$00$00$Control Level (5-60)
    $00$00$00$CCCCCCCCCCCCCCCCCCCCCC
    - SET ENGLISH
    BEEF$03$19$00$00$00$01$04$01$01$00$00$00$00$00$01$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
    - SET FRANCAIS
    BEEF$03$19$00$00$00$01$04$01$01$00$00$00$00$00$02$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
    - SET ESPANOL
    BEEF$03$19$00$00$00$01$04$01$01$00$00$00$00$00$03$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC

RS232 Program Protocol

- Command List
  - SET DEUTSCH
  BEEF$03$19$00$00$00$01$04$01$01$00$00$00$00$00$04$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - SET NEDERLANDS
  BEEF$03$19$00$00$00$01$04$01$01$00$00$00$00$00$05$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - SET POLSKI
  BEEF$03$19$00$00$00$01$04$01$01$00$00$00$00$00$06$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - SET RUSSIA
  BEEF$03$19$00$00$00$01$04$01$01$00$00$00$00$00$07$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - SET 10000K
  BEEF$03$19$00$00$00$01$05$01$01$00$00$00$00$00$01$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - SET 9300K
  BEEF$03$19$00$00$00$01$05$01$01$00$00$00$00$00$02$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC

RS232 Program Protocol

- Command List
  - SET 6500K
  BEEF$03$19$00$00$00$01$05$01$01$00$00$00$00$00$03$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - SET USER
  BEEF$03$19$00$00$00$01$05$01$01$00$00$00$00$00$04$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - ADJUST CONTRAST
  BEEF$03$19$00$00$00$01$48$02$01$00$00$00$00$00$Adjust_Scroll_Change(0-100)$00$00$00$CCCCCCCCCCCCCCCCCCCCCC$CC
  - ADJUST BRIGHTNESS
  BEEF$03$19$00$00$00$01$47$02$01$00$00$00$00$00$Adjust_Scroll_Change(0-100)$00$00$00$CCCCCCCCCCCCCCCCCCCCCC$CC
  - ADJUST VOLUME
  BEEF$03$19$00$00$00$01$06$01$01$00$00$00$00$00$Adjust_Scroll_Change(0-100)$00$00$00$CCCCCCCCCCCCCCCCCCCCCC$CC
  - MUTE ON
  BEEF$03$19$00$00$00$01$06$02$01$00$00$00$00$00$01$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC
  - MUTE OFF
  BEEF$03$19$00$00$00$01$06$03$01$00$00$00$00$00$01$00$00$00CCCCCCCCCCCCCCCCCCCCCCCC