The feature for TWIN232 box application

(Connect RS232 device over 4000 feet)

1. Application structure:

   We can use two TWIN232 boxes to support RS232 device connection over 4000 feet. We can have local RS232 pass-through connection.

2. The feature for TWIN232 box:

   a) We can use two sets of standard RS232 to RS422 converter box for long distance connection.

   b) But it is not easy to find the reason for RS232 device with problem in data transmission.

   c) Do we have problem in RS232 host to converter box? Or we may have problem in converter box to RS232 device. Or we may have problem between both converter boxes.

   d) Now you must use TWIN232 box. Because it is easy to find the reason for RS232 device with problem in data transmission.

   e) Originally TWIN232 box is used as RS232 to RS232 ground isolator or RS232 to Ground isolated RS422/RS485 converter. The data received in RS232 COMMON DCE port will be re-transmitted to

RS232 ISOLATED DTE port and ISOLATED RS422 port. The data received in RS232 ISOLATED DTE port or ISOLATED RS422 port will be re-transmitted to RS232 COMMON DCE port.

f) When we have RS422 connection for long distance between both TWIN232 boxes. We can use local RS232 ISOLATED DTE port to check the data communication between RS232 device (connected to RS232 COMMON DCE port in TWIN232 box) and TWIN232 box. It is easy to find the possible reason for data transmission with problem. It may be RS232 connection between RS232 device and TWIN232 box. Or it may be RS422 connection between TWIN232 boxes.

3. Usage in TWIN232 box:

a) You need to set in RS422 mode (Mode DIP Switch in OFF location).

b) Your PC is RS232 DTE connector (DB9 male connector). Please use DB9 female to DB9 male direct cable (our A102 cable) between PC RS232 connector and TWIN232 box's RS232 COMMON DCE connector (female connector).

c) The cable between TWIN232 box's ISOLATED RS422 terminal block is cross cable.

```
TXD+ -------------> RXD+
TXD- -------------> RXD-
RTS+ ------------> CTS+
RTS- ------------> CTS-
RXD+ <------------ TXD+
RXD- <------------ TXD-
CTS+ <------------ RTS+
CTS- <------------ RTS-
IGND <------------> IGND
```

d) The target RS232 device in remote site will connect to RS232 COMMON DCE connector. If you had direct cable for your RS232 device to PC RS232 originally, then you need cross cable for your RS232 device to TWIN232 box. If you had cross cable (NULL MODEM cable) for your RS232 device to PC RS232 originally, then you need direct cable for your RS232 device to TWIN232 box.

e) For duplex RS232 connection without hardware RTS/CTS flow control you may have 4 wires to connect between TWIN232 box for TXD+- and RXD+- signal.

f) It is best to have one wire (may be external shield metal of cable) to connector IGND signal between TWIN232 boxes.

g) For RTS/CTS hardware flow control you need another 4 wires for RTS+- and CTS+- signal.

4. Please keep in mind that the data received in RS232 ISOLATED DTE port and ISOLATED RS422 port are re-transmitted in RS232 COMMON DCE port. So we can not let RS232 ISOLATED DTE port and ISOLATED RS422 port to receive data simultaneously. In normal application you may use one of RS232 ISOLATED DCE port or ISOLATED RS422 port as active one. Even though we can connect one RS232 device in local site and RS422 connection in remote site simultaneously. But we can just let one device to work. Or you may have data collision condition.

Local connection & remote connection in one Box.