Interfacing with Evertz MVP

MVP Umd Serial Numbers

The Evertz MVP appears in the Image Video Tally System Console as a set of type RDU1100 UMDs (not the usual RDU1500 type), with a special serial number format. The serial number begins with an uppercase 'E' followed by at least four digits. For MVP on multiple ports it is recommended that a fifth digit after the 'E' be added as serial numbers need to be unique across all ports within a single TSI1000 (i.e. serial numbers cannot be repeated from one port to another within the same TSI1000).

MVP UMD serial number examples:

For UMDs all on MVP one port in a TSI1000: E0001, E0002, etc.
For UMDs on the first of multiple MVP ports in a single TSI1000: E10001, E10002, etc.
For UMDs on the second of multiple MVP ports in a single TSI1000: E20001, E20002, etc.

For multi-TSI1000 systems, the UMD serial numbers can be repeated from one TSI1000 to another.

The last four digits of each UMD serial number must match the "Protocol ID" (PID) for a UMD in the Evertz system. In systems where there is one UMD per Evertz video input, the PID / serial number can track the input number. In systems where there is more than one UMD per Evertz video input, the user must provide a scheme for assigning PIDs to UMDs. The TSI1000 accepts PID values between 0 and 2047 on each serial port.

Interface Details

The default baud rate for the MVP interface is 115200 bits per second. The serial character format is 7 data bits, even parity and 2 stop bits. Note that ports COM11 and COM12 may not be used for MVP ports at a baud rate of 115200.

The MVP interface protocol is transmit-only and therefore wiring is required only for transmit from the TSI1000 to MVP.

Interfacing Evertz VIP

When interfacing to Evertz VIP, the communications parameters must be 8 data bits, no parity bits and 1 stop bit. Although baud rates other than 115200 can be used, *in some VIP software versions 7 data bits, even parity and 2 stop bits are not supported by the VIP hardware*. In these cases cause severe display errors, typically showing many "%" symbols, may be observed even if the communications parameters at both ends are matched.

To set the proper communications parameters for Evertz VIP, set Global Message _SYSVAR_COMM_FORMAT with contents <port-1>,115200/8/n/1, where <port-1> is the COM port number less one.

For example if the Evertz VIP is connected to TSI1000 port COM9, then set the _SYSVAR_COMM_FORMAT "Contents" field to "8,115200/8/n/1" (no quotes).

Virtual GPIs

To use Evertz virtual GPIs (for border tally or tally blocks in the MVP monitor wall, a UMD must be programmed with a control string of the following format:

LIN(16)<VGPI#>=<1 or 0>[LIN(1)UMD text control string as required]

Example

LIN(16)5=1

Will turn on virtual GPI #5.

LIN(16)5=0

Will turn off virtual GPI #5.

Typically:

LIN(16)5=PGM(R1::CAM1)

to turn on virtual GPI #5 if a source goes to air, and

LIN(16)5=PGM(R1::CAM1)LIN(1)CAMERA 1

to control virtual GPI #5 and also display the name "CAMERA 1". LIN(16) denotes a following virtual GPI control string, while LIN(1) denotes a text control string send. The LIN(1) command is not necessary if the LIN(16) command is not used (defaults to text control string).

Configuring an MVP UMD

To add an MVP UMD to the Tally System Console configuration.

1. Click on "Display Unit" => "Configure".
2. Click "Add".
3. Enter a "Name" and "Serial Number" for the UMD, such that the last four characters of the serial number match an Evertz PID (e.g. E0001).
4. Set the "Type" to RU1100.

5. Click “Port” and set the appropriate port number. “Interface” is usually “2”.
6. Click “Details” and enter the UMD control string.
7. Repeat steps 2-7 to enter other UMDs.
8. Click “Close”.

NOTE: Do not enter display types other than RDU1100 with the “E” format serial numbers on a TSI1000 port assigned for use with the MVP. Doing so will cause port configuration conflicts that may affect the baud rate setting of the serial port.

The “Configure Display Units” dialog box keeps the last-used setting as defaults when adding a new unit. Therefore when switching from entry of one UMD type to another (say from Image Video RDU1500 to Evertz MVP), take extra care to set all the parameters correctly for the first unit of the new UMD type.

Text colour codes:

The AC embedded function can be used to control text colour in the Evertz UMD. The colour code bits have the following effect:

bit 0 - no effect
bit 1 - Evertz “default” colour
bit 2 - Evertz normally red (can be reprogrammed in Evertz Maestro)
bit 3 - Evertz normally green (can be reprogrammed in Evertz Maestro)

The recommended colour codes for the most common tally situations are “5” for program, “11” for preset, and “2” for the non-tallied (normal) state. This works well for the keeping default Maestro colours and lets the Tally System console approximately reflect the colour change of the Evertz display. For example:

tsx(R1::DST1[1],A,ac(5),ac(11),ac(2))

will cause the UMDs as shown in the MVP and the TSC to appear as follows:

Function	AC function value	Bits	Default MVP colour	Console colour
Program	5	0101	Red	Red
Preset	11	1011	Green	Amber
Normal	2	0010	Default	Green

VIP Over IP

To use MVP's or VIPs over IP, the following differences in setup need to be observed.

1. For each IP address in the Evertz system, one UMD of type "Evertz MVP Screen (TCP/IP Port)" must be configured in the TSC. To do this, click on "Display" => "Configure", "Name" and "Add" the display. Set its serial number to unique value with a leading "E". Click on "Port" and set the Interface Number (usually "2") and the IP Address.

2. For each UMD in the monitor wall controlled by one IP address, there must be one UMD of type "Evertz MVP Display" set up. It's name must have the format <Screen Name>::<UmdName>, for example CUBE1::UMD01. <Screen Name> must be the name of a "Evertz MVP Screen (TCP/IP Port)"-type UMD, as created in step 1 above (For example in CUBE1::UMD01, CUBE1 would be the name of a Evertz MVP screen UMD). <UmdName> is arbitrary. Neither name need match any names in the Evertz system setup. The serial number of this UMD must have a leading E followed by four digits. The four digits of a serial must be arithmetically equal to a PID in the Evertz system setup.

MVP Over IP

For many situations MVP over IP may not be a viable option to interface with the Image Video TSI1000 and in these cases the serial interface should be used. Because of the respective architectures of the MVP and TSI1000 systems, UMDs configured in the TSI1000 and assigned to an IP address in the MVP system can only update the one assigned IP address. There is one IP address per MVP output card.

Consequently, the IP interface can be used only if there is just one output card in the MVP system, or if a set of MVP inputs can be permanently assigned to only one video output.

If it is required that any MVP video input be assigned to any video output, which is a selling point and a capability of the MVP, then the serial interface, which can be daisy-chained across the output cards to give each output card all UMD information, must be used.

MVP Wiring

1. A jumper (JP13) on the MVP PPMC module must be set to RS422.

2. Connecting a PC running Hyperterm to either the MVP output cards or the first PTX card is necessary to set the MVP serial ports to the correct serial communications parameters (see point 3 below). The PTX card may or may not be used, depending on the architecture of the MVP system. Hyperterm needs to be set to 115200 bad 8 data bits no parity, 1 stop bit.

3. The serial communications parameters for the TSI1000's MVP port is 115200, 7 data bits, even parity, two stop bits. This is set up automatically by the TSI1000 when it finds RDU1100 UMDS with "E"-prefixed serial numbers (see section above on "MVP Umd Serial Numbers"). See point 2 above on how to set this up in the Evertz end.

4. The protocol is one-way only so only the TSI1000 transmit and the MVP receive lines need be connected.

5. The TSI1000 transmit "plus" line goes to the MVP pin labeled "CTS".

6. The TSI1000 transmit "minus" line goes to the MVP pin labeled "RX".

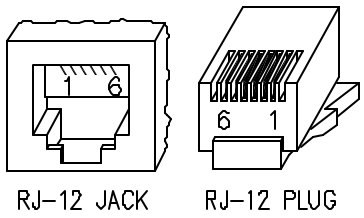
7. The serial pinouts for the COM8-COM10 DB-9 sockets are:

   3 - TX+
   8 - TX-
   4 - TX gnd
   7 - RX+
   2 - RX-
   6 - RX gnd
   1 - Chassis gnd
   9 - Chassis gnd

   Therefore pins 3 and 8 would be connected to the MVP.

8. The serial pinouts for the COM3-COM6 RJ-11 sockets are:

Pin	*Function*
1	Rx-
2	Gnd
3	Tx+
4	Tx-
5	Not used
6	Rx+



9. Do not use COM11 or COM12 for the MVP port.

10. Configure <u>all</u> UMDs on an Evertz port as "RDU1100" types with E-prefixed serial numbers in order to prevent a baud rate setup conflict. The baud rate of the port is set in accordance with the type of the first UMD configured on the port.