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# **MXU-88 Communication Protocol**

This document describes commands for the MU-88 that would be sent using IP via a Telnet connection.

Most commands begin with //F00 and will generate a response that begins with \$\$F00. In most cases the response is identical to the command with the exception of the first two characters. Commands begin with // and responses begin with \$\$.

The commands are used by both the Web Page interface and the Telnet interface and it is possible to receive unsolicited responses without first sending a command. As an example, if the Web Page is open and sends a video cross point command a response will be seen at the Web Page and the Telnet interface. The response serves as a confirmation for the Web Page and as a status update for the Telnet interface. Button presses on the front panel will also send unsolicited responses to the Web Page and the Telnet interface.

Note: All commands require a checksum which is the XOR (exclusive or) of all the bytes before the checksum byte with bit 6 forced high. First calculate the XOR of all the bytes and then set bit 6 high.

## **MXU-88 Commands**

Most commands end with a carriage return <CR>.Some commands require a checksum<CHK> byte before the carriage return. When a command requires a checksum in its return value it will be the same checksum sent by the command but the nibbles will be swapped. It will be designated by <CHKS>.

//FxxQ<CHK><CR> xx -

xx - frame address

Returns 16 bytes followed by <CR>. The first 8 bytes will be the video crospoint and the second 8 bytes will be the USB crosspoint. They represent the input assigned to

each output. Bit 7 is set high for each input value so it can be recognized as valid. Value is 1 less than the input number. If an output is unassigned

the

returned value will be FF.

#### **USB** commands

#### **Set USB crosspoint**

//FxxUyylzz<CHK><CR> xx - frame address 00

yy - output 1 to 8 zz - input 1 to 8

Returns < CHKS > < NL > < CR >

### **Query USB crosspoints**

//FxxUQ<CHK><CR> xx - frame address

Returns 8 bytes which represent the input assigned to each output followed by <CR>. Bit 7 is set high for

each

input value so it can be recognized as valid. Value is 1 less than the input number. If an output is unassigned

the

returned value will be FF.

#### **Video Commands**

**Set Video crosspoint** 

//FxxVyylzz<CHK><CR> xx - frame address 00

> 1 to 8 yy - output zz - input 1 to 8

Returns < CHKS > < NL > < CR >

//FxxVQ<CHK><CR> xx - frame address

Returns 8 bytes which represent the input assigned to

each output followed by <CR>. Bit 7 is set high for

each input value so it can be recognized as valid. Value is 1

less than the input number.

**EDID** commands

Learn EDID

//FxxVEL<CHK><CR> Reads the EDID from screen 1 and stores it to

all sources. message

<LF><CR><LF><CR>. The

name

Returns diagnostic messages. The diagnostic

is terminated with

consists of 13 bytes immediately preceding the

terminating <LF><CR><LF><CR>.

Get EDID info

//FxxVEI<CHK><CR> Returns the screen name and resolution.