PRODUCT – ADC

TOPIC – CHYRON MAX! - CHARACTER GENERATOR

DATE: September 18, 2001

REVISION HISTORY

<table>
<thead>
<tr>
<th>Revision</th>
<th>Protocol</th>
<th>Date</th>
<th>Author</th>
<th>Description</th>
</tr>
</thead>
</table>

VERSIONS USED

Firmware:
Operator’s Manual:
Protocol:

REQUIREMENTS

Some versions of the Chyron MAX!> communicates via an RS-232 serial interface. It is necessary to use an RS-232/RS-422 Converter and adapters for 9 pin to 25 pin RS-422 conversion and 25 pin to 9 pin RS-232 conversion with these models. A standard RS-422 pin-to-pin cable is also required.

(Fig 1-1)

Connection diagram for ADC and MAX!>

![Connection diagram](image)

ADC

9pin male - 9-pin male straight-through cable

9p female - 25p male RS-422 adapter
(See Fig 1-2)

RS-232/RS-422 Converter

25p female - 9p male RS-232 adapter

MAX!>
PINOUTS for 9 pin - 25 pin RS-422 adapter

<table>
<thead>
<tr>
<th>DB9 (female)</th>
<th>DB25 (male)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
</tr>
</tbody>
</table>

For versions of the Chyron MAX!> that support RS-422 serial interface, the converter is not necessary, however, a custom built RS-422 cable between the device server and the MAX!> will need to be constructed, following the pin-out shown below;

<table>
<thead>
<tr>
<th>Louth Xfer Switch</th>
<th>MAX J2 Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB-9 Male</td>
<td>DB-9 Male</td>
</tr>
<tr>
<td>1------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>2------------------</td>
<td>------------------</td>
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<tr>
<td>3------------------</td>
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<td>7------------------</td>
<td>3</td>
</tr>
<tr>
<td>8------------------</td>
<td>4</td>
</tr>
</tbody>
</table>

CONNECTIONS

Attach the standard DB9 male pin-to-pin serial cable to the port on the serial card of the Louth Server. (NOTE: Port number is your option and designates the Device number in the ADC.) Connect the other end to the 9 pin female - 25 pin male RS-422 adapter. Now connect the 25 pin male end to the RS-422 end of the RS-232/RS-422 converter. Connect a 25 pin female to 9 pin male RS-232 adapter to the RS-232 end of the RS-232/RS-422 converter. Attach the 9 pin male end to SERIAL PORT 2 (the right port) on the rear of the MAX!>. Only serial port #2 can be used for communications on the MAX!>.

DEVICE HARDWARE SETTING

Set the communications parameters of the MAX!> by following these procedures:

1. From the LOADER menu, press the SET UP key.
2. Select the SET COM icon, or press the C key to open the Set Communications window.
3. Change the parameters displayed so that they correspond to the following settings:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baud Rate</td>
<td>19200</td>
</tr>
<tr>
<td>Data Bits</td>
<td>8</td>
</tr>
<tr>
<td>Parity</td>
<td>None</td>
</tr>
<tr>
<td>Stop Bits</td>
<td>1</td>
</tr>
<tr>
<td>Port Number</td>
<td>2</td>
</tr>
</tbody>
</table>
4. If your Set Communications window also controls Port Protocol, make sure RS-232 is selected. If there is no control on the Set Communications window you must do the following:

5. Confirm that the communications protocol of the MAX!> is set to RS-232 on the CPU board.
   - Disconnect power to the MAX!>.
   - Remove the front panel.
   - Remove the CPU board from the bottom slot (J1).
   - Locate Jumper JP10 on the 6U side of the CPU board. Make sure the jumper is in pin positions 1-2.
   - Reinstall the CPU board. Replace the front panel, and reconnect power to the unit.

(NOTE: If you encounter problems following this procedure please contact Chyron service for assistance.)

COMMUNICATIONS PARAMETERS
The communications parameters for the Chyron MAX!> Character Generator are:

- Baud Rate: 19,200
- Data Bits: 8
- Parity: None
- Stop Bits: 1

DEVICE SERVER SET-UP
To configure the MAX!> for the system follow these steps:

1. Select the Options pull down menu.
2. Select Configure Devices for the device number that the MAX!> is to be assigned to. The device number is the port on the server.
3. Select Change.
4. Select MEDIA DEVICES under listed devices and Chyron MAX!> for the protocol.
5. Press OK and the Save. The system will prompt for confirmation.
6. Select the Options pull down menu again.
7. Select Device Parameters to set-up the device for operation.
8. Select device Name and assign a name to the MAX!>.
9. For each list on the system, select Audio/Video and fill in the appropriate Video Out and Video In crosspoints.
10. When you are satisfied with your selections, press Save and the set-up will be made permanent.

OPERATION NOTES

Once the MAX!> is wired to the Server, the Server has control over the device. Be sure to check the MAX!> monitor after device configuration. The BUFFER: field should read PREVIEW and should not read BUFFER: AIR or AIR/PREVIEW. If BUFFER: AIR or AIR/PREVIEW is set, use the MAX!> keyboard to switch buffer control to PREVIEW instead of AIR. The ADC always cues to the PREVIEW buffer and then transfers the completed image to the AIR buffer just before it is needed for an event.

Although there are two heads indicated for the MAX!>, they must not be assigned to different playlists. The ADC uses one head as a preview buffer and the other head as the air buffer. This allows the ADC to ready the next image while a MAX!> image is on air. BOTH HEADS MUST BE ASSIGNED TO THE SAME PLAYLIST.

The id field of the list event must contain the default device name of “MAX01” or the device name you have selected in the options pull down menu. The title field of the list event must contain the message number of the prepared MAX!> data. Legal MAX!> message numbers are 0000 to 9999.

The ADC uses the Controlled READ load of MAX!> messages. While this ensures proper recall of the fonts used to create the message it may also lengthen the time to load the image. Make sure your preroll is long enough to allow for font retrieval. Only the active font directory and active message directory are accessed by the ADC. Be sure you leave the MAX!> with the proper directories selected.

TEST PROCEDURES

1. Ensure that the serial RS-422 cable is attached to both the server and the character generator.

2. Double-check the switch settings and jumpers in the MAX!>. They should match the values given in Device Hardware Settings, above.

3. Ensure the character generator is functioning properly from its keyboard. Verify that the installation of the character generator is complete.

Verify that signals are being sent and received through the serial RS-422 cable. To do this, a VOM may be attached to the transmit and receive lines. Also, while issuing a command, watch for a change in voltage. Alternatively, attach an analyzer in-line and watch for a transmission and acknowledgment of commands being sent to the MAX!>. If a command is being sent and not returned, check to ensure that the cable is connected properly at the character generator. If the command is being returned, check to ensure that the setup in the software is correct. If commands are not being sent at all, check the cable connection to the server and the setup in the software. Make sure all adapters and the RS-422/RS-232 converter are screwed together tightly and that the RS-422/RS-232 converter has power.

INTERNAL DOCUMENT #
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