Film-Tech

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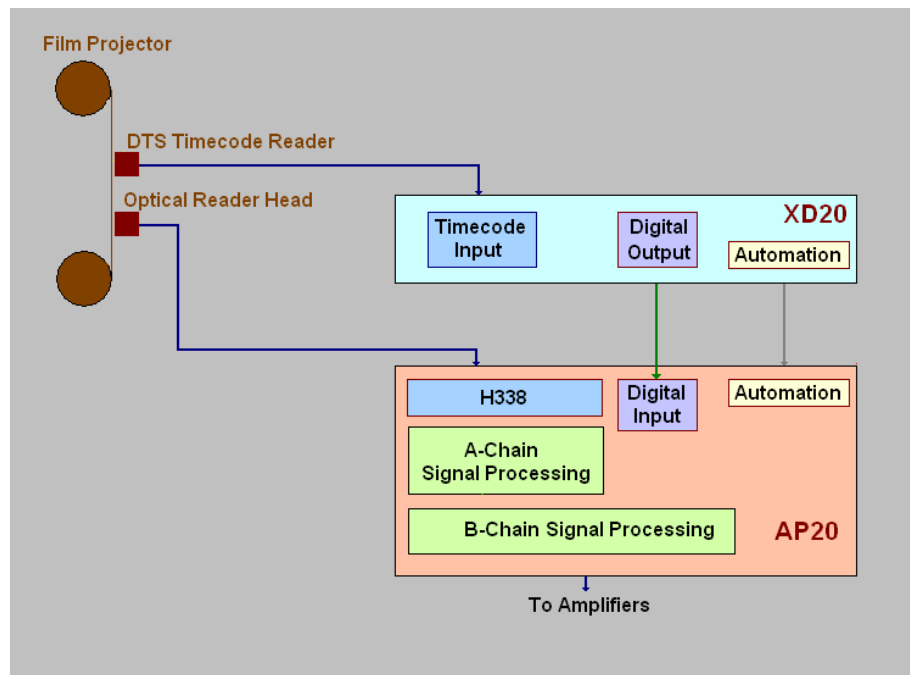| DEPARTMENT	CREATED BY:	EFFECTIVE DATE	APPROVED BY:
Engineering	F. Pflaum	November 1, 2010	L. Brown

Introduction

This document describes how to setup an AP20 for film soundtrack playback in which a digital soundtrack player is used and the H338 optical card provides the optical fallback.

☑ This feature is only available with AP20 system software V1.02.00 and above. Software must be updated, if necessary, **before** installing the H338 card.

☑ For H338 installation and alignment procedures please refer to TN-H457 rev. A or above.

☑ Please also refer to the AP20 Installation and Operating Guide (*TM-H392 1.2* and above) for general information on the AP20.

General Operation

Figure 1 below illustrates a typical configuration using the AP20 for playing optical and digital soundtracks for 35mm film. When properly configured the AP20 will primarily play digital soundtrack for trailers and features, and switch to one of the optical formats for trailers and features without the digital soundtrack.

Figure 1: AP20 configuration with H338 and XD20.

In this illustration, the XD20 is used to play the 5.1 digital audio sound track synchronized to the film (if it is receiving valid timecode) and the matching 5.1 audio content has been loaded on the XD20. The XD20 automation out signals the AP20 whenever the digital soundtrack is available. When there is no digital soundtrack playing on the XD20, the XD20 automation signals the AP20 to play an optical format. In cases where the XD20 has played to within 2 minutes of the last film reel before losing timecode, then the XD20 sends an automation pulse on the NONSYNC format.

A similar configuration can be adapted to work with the DTS-6D or XD10 using the Analog output, or with any other digital soundtrack players.

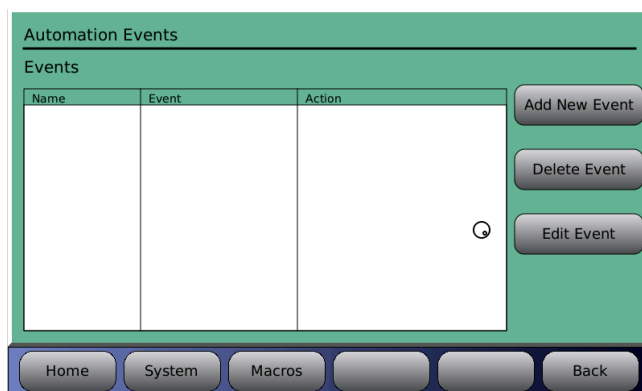|	TITLE **Using AP20 with Digital Soundtrack Player for Film**	NUMBER TN-H460	REV A	PAGE 2 of 4
DEPARTMENT Engineering	CREATED BY: F. Pflaum	EFFECTIVE DATE November 1, 2010		APPROVED BY: L. Brown

Programming the AP20 Automation

This section outlines the steps required to configure the AP20 to operate with a digital soundtrack player.

1. The AP20 must first be configured with the optical and digital formats required. In this example we will use **Mono**, **A**, **SR** optical formats, **XD20** for the digital format, and a format named **Nonsync**.

2. Determine the automation pins required for the digital player. Table 1 below shows the automation pin assignment used for the DTS-6D, which are fixed. The XD10, or XD20 player automation pins are configurable, but are often configured with the same pin-out as the DTS-6D.

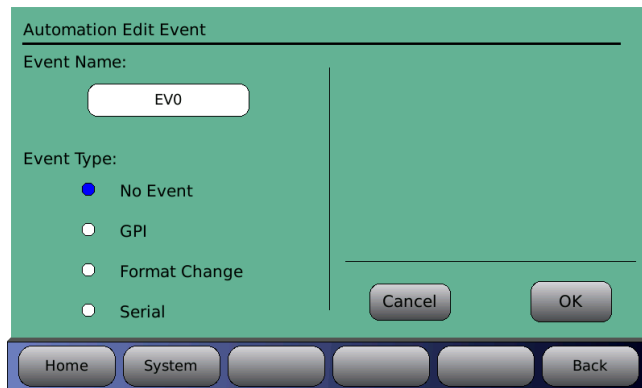**Table 1: Automation Pin Definitions for 6D Digital Soundtrack Player**

AUTOMATION PIN NUMBER	FUNCTION	GPIO NAME	AP20 FORMAT NAME (EXAMPLE)
1	Switch to Mono optical format	GPIO-1	Mono
2	Switch to A-type optical format	GPIO-2	A
3	Switch to SR optical format	GPIO-3	SR
4			
5	Switch to digital soundtrack	GPIO-5	XD20
6			
7	NONSYNC	GPIO-7	Nonsync
8			

3. Create an event for each automation pin to cause the AP20 to select the proper format. This is done on the **AP20 Automation Events** screen located at **menu System → Automation → Events.**

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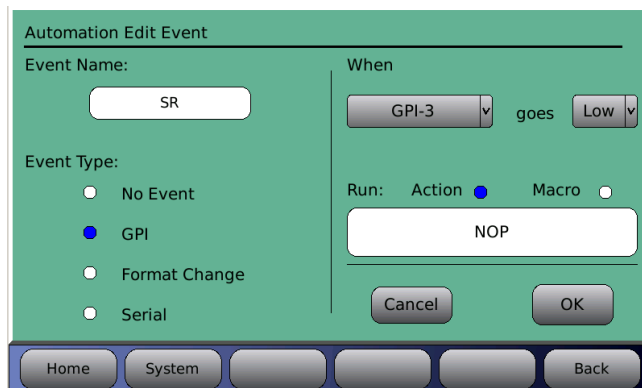| DEPARTMENT	CREATED BY:	EFFECTIVE DATE	APPROVED BY:
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a. Select **Add New Event**

Note: Steps b through g (below) show an example for assigning GPI-3 to switch to SR format. The GPI number and format name required will depend on actual the system configuration.
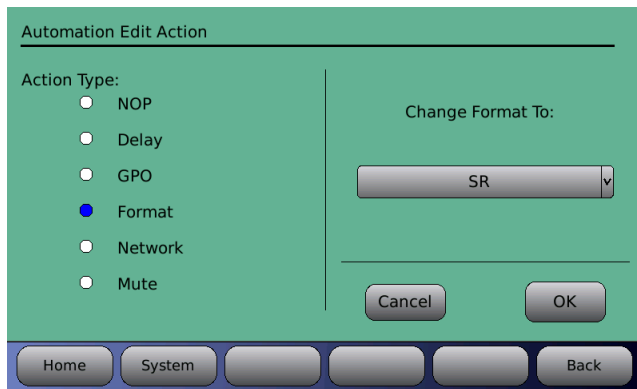
b. Select **Event Name** and enter **"SR"**

c. On the left side, select **Event Type: GPI.**

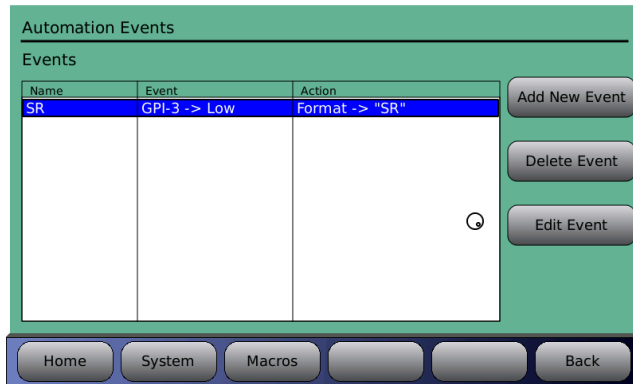d. On the right side of the screen**, Select "**When **GPI-3** goes **Low run: Action"**

e. On the right side of the screen select the text box to enter the Automation Edit Action screen.

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f. On the Automation Edit Action screen, select **Action Type: Format,** and **Change Format To: SR**

g. Select **OK** to return to the **Automation Edit Event** screen. Select **OK** again to return to the **Automation Events** screen.

h. Repeat steps b through g (above) for all required formats.

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