Film-Tech

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Dolby® CAT. NO. 113C

Automation Interface for Model CP50

Installation Instructions

INSTALLATION INSTRUCTIONS

FOR

CAT NO.113C

Dolby Laboratories Incorporated

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Dolby® Cat. No. 113C
Automation Interface Module
for the Dolby CP50
Cinema Processor

Dolby Laboratories now offers an improved retrofit control logic board for the 6,000 Dolby Stereo CP50 cinema processors in operation around the world. The Cat. No. 113C gives the CP50 one-button format selection, automation interface, adjustable bypass level and power supply status.

One-button Format Selection
The Cat. No. 113C replaces the earlier Cat. No. 113 Automation Interface Module or the Cat. No. 112 Manual Switch Card. The Cat. No. 113C now offers the operator complete, direct manual or automated control of the entire theatre sound system.

Automation Interface
Since the Cat. No. 113C interfaces directly with theatre automation equipment, additional customer-supplied interface hardware is no longer needed. The system may be operated manually from the cinema processor, through an automation system, or by remote control. The non-sync format for intermission music has automatic fade-in and fade-out. The power-up format is user-selectable.

Adjustable Bypass Level
If a speaker or power amp fails during a show, the Cat. No. 113C bypass switch can disable the current format and feed a mono signal to all three front channels. The bypass fader allows immediate manual adjustment of speaker volume. When linked to an emergency power supply, the Cat. No. 113C can activate auxiliary power and indicate its status.

Power Supply Status Lights
Three LEDs at the right front of the Cat. No. 113C monitor main or
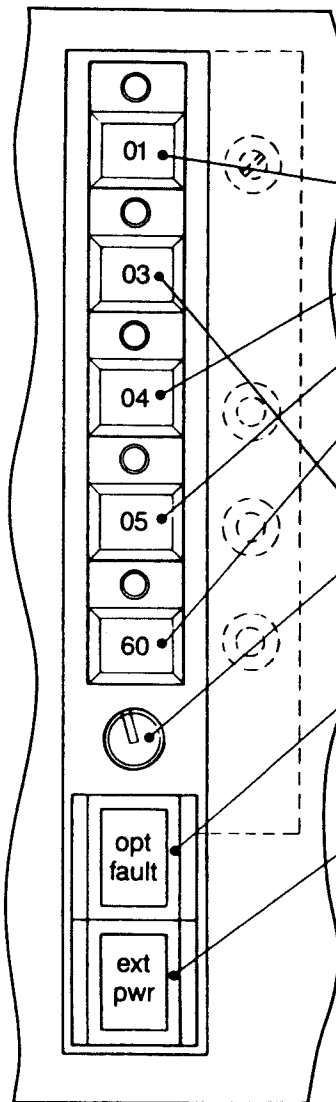
User-operated features
The following switches may be operated by automation equipment, by remote control or by manual selection. Indicator lights show format in use:

Mono.

Dolby Stereo optical with surround.

Reserved for future film formats.

Non-sync carries up to four channels of intermission tape music.

These controls can be operated only from the front panel:

Bypass Fader–gain knob for manual audio bypass mode.

Dolby Stereo optical without surround.

Optical Fault Bypass Switch–When any element following the pre-amps fails, this switch is used to bypass circuitry in the CP50, feed a mono signal to the front three speakers, and activate the Bypass Fader.

External Power Supply–this switch activates auxiliary power source (if connected).

Features on front of Cat. No. 113C, behind CP50 front panel:

LEDs–Indicate power supply status for – 12V, + 12V, and + 24V power rails.

Trim pot–sets non-sync volume.

auxiliary power on +12V, −12V, and +24V rails.

Installation
The Cat. No. 113C plugs into the Cat. No. 112 board slot of the CP50. Installation should be done by theatre equipment supplier or other trained personnel to ensure correct interface with theatre automation equipment and emergency power supply. The jumpers for power-up format and rapid fade-out should be set during installation.

◻◻ Dolby®

CAT NO. 113C INSTALLATION INSTRUCTIONS

Introduction

The Cat. No. 113C replaces the Cat. No. 113 Automation Interface or the Cat. No. 112 Manual Switch card. Its various features are outlined in the attached brochure. A CP50 equipped with a Cat. No. 113C can be operated from the front panel or by a customer supplied remote station. The Cat. No. 113C uses a different and simpler automation interface than other CP50 automation schemes. It is therefore ESSENTIAL that all existing automation or remote control wiring be disconnected from the CP50 before installation of the Cat. No. 113C. Failure to do this will cause improper operation and may damage the Cat. No. 113C.

Please see the enclosed interface drawing for wiring details.

Label Installation

1. Disconnect AC power from the CP50.

2. Remove the existing Cat. No. 112 or Cat. No. 113.

3. Remove all wiring from the automation barrier strips at the upper left of the CP50 backplane. Also remove all wiring from the non-sync/mag inputs. These steps prevent interference with the new automation system and facilitate installation of the new backplane label.

4. Install the adhesive-backed backplane label as shown on the interface drawing.

5. Install the new adhesive-backed front panel label after cleaning the front door thoroughly to ensure that the label will remain attached. Cleaning with detergent or window cleaner followed by rubbing alcohol is recommended. Extra labels are available.

Do not reconnect wiring to the barrier strips at this time.

Setting Programming Jumpers (refer to the set-up drawing on page 7)

1. Locate suitcase link J103 on the Cat. No. 113C board and set this link for the desired power-up format.

2. Set Non-Sync Fade-Out link as needed. The links are identified as J101 and J102 on the Cat. No. 113C board.

    With the link in either position, selecting NON-SYNC (format 60) will cause the film sound to turn off and the non-sync music to fade up. If the link is in location J101, selecting a film sound format will immediately switch the CP50 to film sound without fading the music down. If the link is in location J102, selecting a film sound format will cause the music to fade down first.

Pre-setting Non-Sync Level

1. Turn the **NON-SYNC LEVEL** control on the Cat. No. 113C fully counter-clockwise to avoid possible loudspeaker damage.

Installation

1. Install the Cat. No. 113C.

2. Restore power to the CP50 and check that the three LEDS indicating proper rail voltages are lit.

3. Close the front door of the unit.

4. Check that the front panel switches operate normally and do not rub against the door or front panel label. The LED in each switch should light as you push the switch.

Automation Interface (refer to the installation drawing on page 8)

The Cat. No. 113C requires pulsed logic control signals for each format. Continuous contact closures are not satisfactory as they override the operation of the front panel switches, preventing the operator from overriding the external automation commands. The same thing is true of the CP55 and CP200 remote control inputs.

Please refer to the CP50/Cat. No. 113C interface drawing. Check the outputs of the external automation system to see if any voltage is present. The automation system should provide contact closures isolated from any external voltage source. Format selection should be by a normally open circuit with a pulsed connection to ground. If relays are used, the contacts should be of the dry circuit type. Contacts of this type are designed to handle very small currents, where no arcs will occur to clean oxides and other contamination off the contact surfaces. Other types of contacts will not be reliable. Transistor switches are satisfactory as well; the voltage at the control terminals is $+12$ VDC when the circuit is open; a few milli-amperes flow through the closed circuit.

Because of the automatic fade-out of music after a film format has been selected, selection should occur 6 or 7 seconds before douser opening. This gives the Cat. No. 113C time to fade out the music and switch to film sound. The automation system should therefore furnish an early contact closure. If the film format is not selected until the actual start of the feature, the film sound will be muted for the first few seconds. When NON-SYNC (format 60) is selected at the end of the film, the music automatically fades up.

Providing this early contact closure may be easy or difficult depending on the type of automation equipment and your familiarity with it. For instance, Rank automation and Kelmar Maxi 10s are easy to get early cues from; others may require custom interfaces or modification. No unusual timing is required at the end of the show; fade-up of intermission music begins as soon as the NON-SYNC format is selected.

If it is impossible to provide the early startup contact closure, the fadeout feature can be defeated by a suitcase link J101 on the Cat. No. 113C card. See the set-up drawing on page 7. In this case film format selection can occur simultaneously with douser opening.

After connecting your automation system to the CP50/Cat. No. 113C, please confirm that all formats operate correctly from both remote and front panel controls before proceeding.

Non-Sync Level Adjustment

Connect non-sync inputs as shown on the installation drawing. You may use any or all channels. Left and Right or Center and Surround are the most frequently used.

Level control is provided on the front edge of the Cat. No. 113C card. This control is independent of the main fader and a satisfactory level needs to be established during installation.

Final Setup

1. Install a Cat. No. 85 pink noise generator in the Cat. No. 110L slot as described in the CP50 manual. Confirm that the Left, Center, Right, and Surround channels operate satisfactorily.

2. Turn the Non-Sync level control fully counter-clockwise. Turn on the Non-Sync source. Adjust the level control for a satisfactory level with the house fader at its normal position.

Bypass Level Adjustment

1. Play a typical Dolby Stereo film; "Jiffy" or "listen..." are good films to use for this adjustment. Set the house fader for normal playback level.

2. Turn the Bypass fader fully counter-clockwise.

3. Turn the Cat. No. 108 left and right bypass controls fully clockwise.

4. Press the **Optical Fault/Bypass** switch.

5. Adjust the Bypass fader for a playback level equivalent to that provided by normal operation.

NOTE: You should have signal from Left, Center and Right loudspeakers when in Bypass.

In some instances you may need to set the Cat. No. 108 bypass adjustments for less than full output to achieve a satisfactory adjustment range on the bypass fader.

External Power

The use of an external power supply is unchanged from the normal CP50 installation. The current required is not significantly different with the Cat. No. 113C installed.
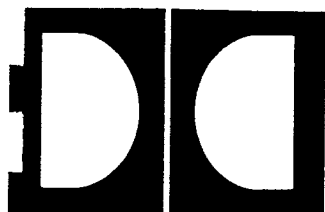
Mono Level Adjustment

This adjustment allows a theater to play mono previews and Dolby Stereo films back-to-back without changing the house fader setting.

The best practical approach to this adjustment is as follows:

1) Play a typical reel of a Dolby Stereo film. Set the CP50 to **format 04, Dolby Stereo**. Adjust the house fader for a satisfactory playback level.

2) Set the CP50 to **format 01, mono**. Play typical previews. Without changing the house fader setting, adjust the mono trimpot on the Cat. No. 117 for a satisfactory playback level.

In some cases you may not be able to adjust the mono level to a low enough setting. If this is the case, see Dolby Field Bulletin #152 at the back of this manual, perform the modification outlined in it, and repeat steps 1) and 2), above.

If you experience problems in installing or using the Cat. No. 113C, please call Dolby Laboratories for assistance. In the U.S.A., the telephone number is (415) 558-0200. Outside of the U.S.A., contact your dealer.

Dolby Laboratories Inc

Field Bulletin No. 152

CP50 MONO OUTPUT LEVEL ADJUSTMENT RANGE

☐	Modification Urgent
☐	Modification Recommended
☒	Modification Required if Problem is Present
☐	Modification for Special Applications

Problem: The mono level pot located on the Cat. No. 117 or Cat. No. 111 card may not have enough range of adjustment to play monaural films (particularly previews) at the same fader setting as Dolby Stereo films. With the pot turned full down, these films play too loudly.
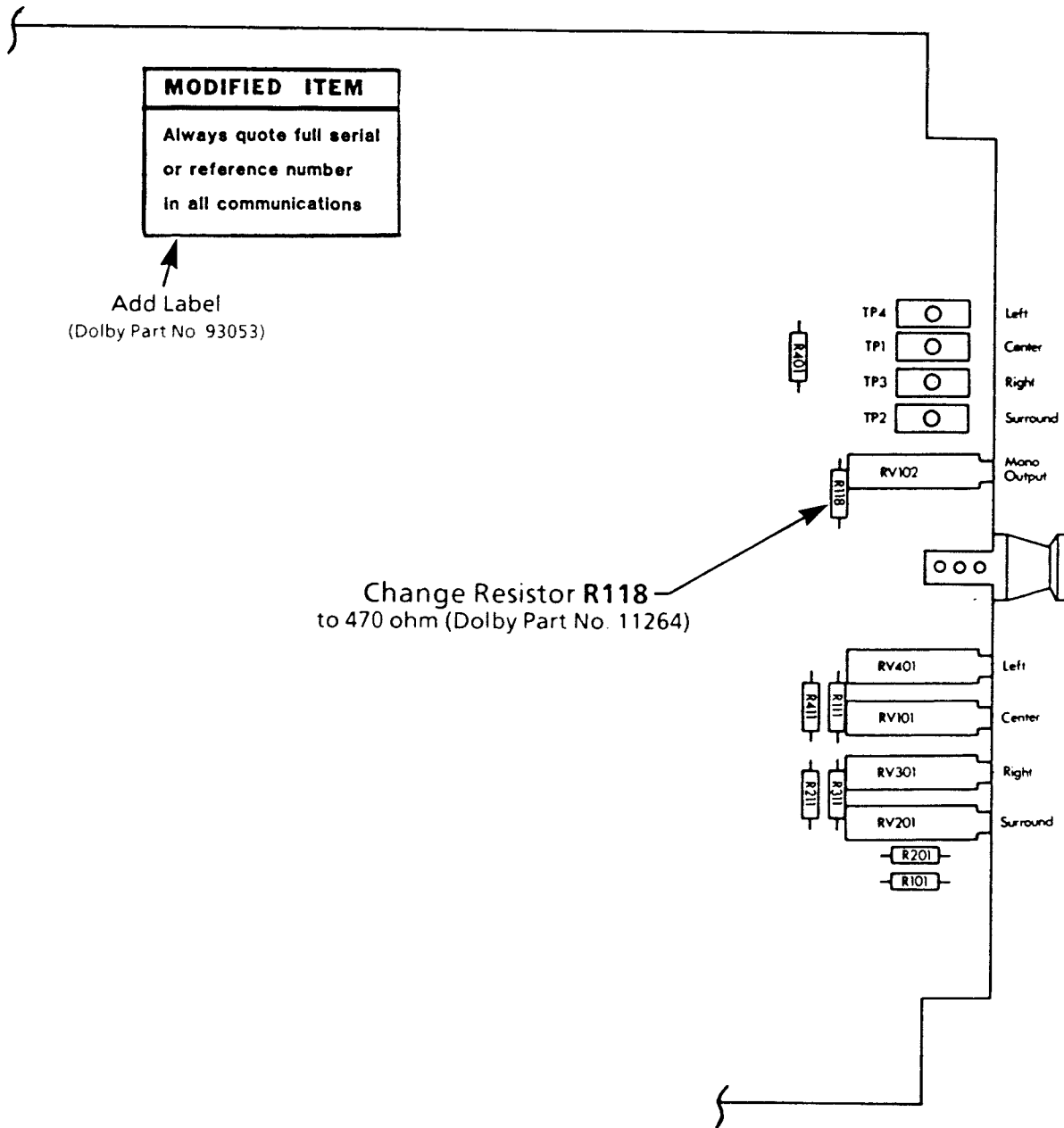
Modification:

1. Switch power to the CP50 **OFF**.
2. Remove the Cat. No. 117 or 111 output card.
3. Locate resistor R118 on the card (see figure).
4. Remove it and replace it with a **470 ohm** resistor.
5. Attach the yellow "Modified Item" label to the card.
6. Plug the card back into the CP50 and turn power **ON**.

Adjustment:

1. Set the mono level pot to minimum (full counterclockwise).
2. Set the CP50 to **Dolby Stereo** (Format 04 if using a Cat. No. 113C).
3. Run a Dolby Stereo film with the fader set to your standard setting for a typical listening level.
4. Set the CP50 to mono (Format 01 if using a Cat. No. 113C).
5. Without re-adjusting the fader, run a typical monaural preview and adjust the mono level pot to achieve a satisfactory playback level.

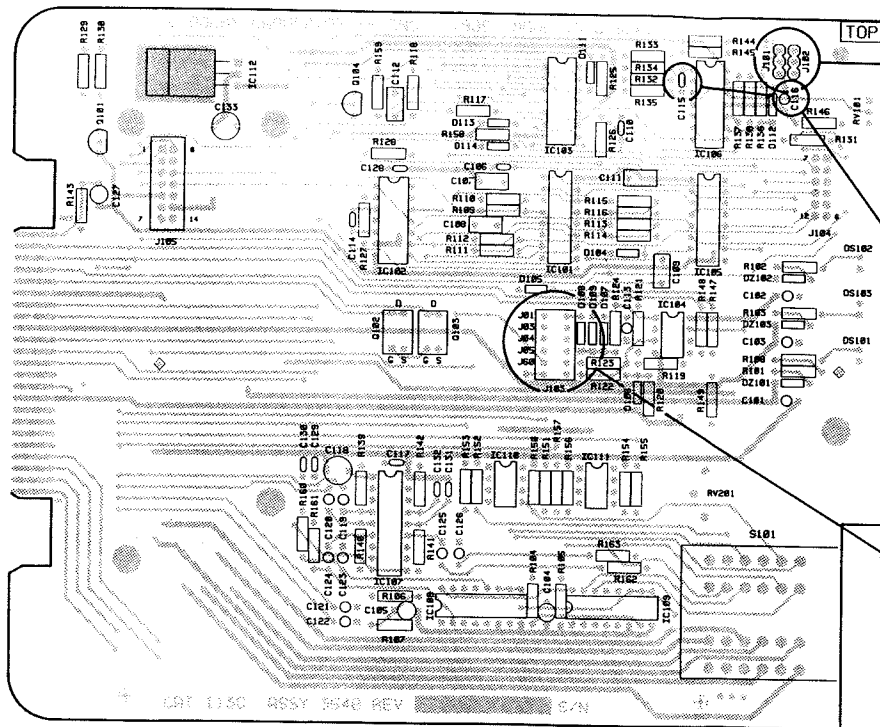**Technical Questions:** Dolby Laboratories, **San Francisco:** 415-558-0200, Sam Chavez or George Douglas
Dolby Laboratories, **London:** 01-720-1111, David Watts or Dion Hanson

Field Bulletin No. 152
Page Two

Cat. No. 117/111 Modification:

MODIFIED ITEM

Always quote full serial
or reference number
in all communications

Add Label
(Dolby Part No 93053)

Change Resistor **R118**
to 470 ohm (Dolby Part No. 11264)

NON-SYNC FADE

MUTE DISABLE J101   MUTE ENABLE J102
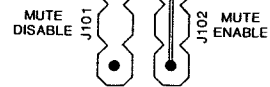
NON-SYNC FADE TIME CONSTANTS

TIME(seconds)	C115(non-polar)	C116(tantalum)
✱ 5	1uF	10uF
10	2.2uF	22uF
2.5	0.47uF	4.7uF

✱ Non-Sync fade time constants can be altered from present values by proportionally changing C115 & C116. 2 typical examples are listed in the table above.

POWER UP STATE

J01	● ●	= MONO (01)
J03	● ●	= DOLBY STEREO W/O SURROUND (03)
J04	● ●	= DOLBY STEREO WITH SURROUND (04)
J05	● ●	= DOLBY STEREO SR (05)
J60	●—●	= NON-SYNC (60)
	● ●	JUMPER HOLDER (SPARE)

J103
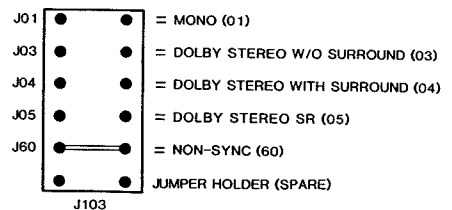
Cat. No. 113C Set-Up

DWG A3A3644 REV B

REMOTE FADER CONNECTIONS

SINGLE-STATION INSTALLATION
OF REMOTE FADER

CP50 WITH CAT. No. 113C CARD

NEW LABEL

Install or remove chassis ground to circuit ground link to produce minimum hum.
If power amplifiers have balanced inputs, link must usually be installed.

REMOTE CONTROLS: Momentary contact selects format

Relay or switch (customer supplied)

Maintain closed contact to select projector 2

REMOTE CONTROLS: Momentary contact selects format

max. wire length 100m (300ft) or 100 ohm max. resistance.

100K, linear

2.2K

"control active"

optional wires for led

Remote Fader Cat. No. 122

TWO-STATION INSTALLATION OF REMOTE FADER
(EXPANDABLE TO ANY NUMBER)

PROJ. 1   PROJ. 2

100K, linear   100K, linear

control circuit   2.2K

"control active"   "control active"

Remote Fader Cat. No. 123   Remote Fader Cat. No. 122

100K, linear

CUSTOMER SUPPLIED REMOTE
FADER POTENTIOMETER

Use 2-conductor shielded cables such as Belden 8451 or an equivalent type wire.

red black

BALANCED INPUT AMPLIFIER

power amplifier

shield

red black

power amplifier

shield

UNBALANCED INPUT AMPLIFIER

RCA PLUG (typical) to non-sync source

WIRE PROJECTOR 2
SAME AS PROJECTOR 1

Cell

red
black
shield   grn
FROM PROJECTOR 1   R
red   blk
black   red   L
shield

Cat. No. 113C Installation
A1W3603 REV A

NOTES: (UNLESS OTHERWISE SPECIFIED)

Cat. No. 113C Automation Interface

A1C3S48 REV 07