Key Upgrades and Options

Cat. No. 735 Auditorium Assist Microphone

The Dolby Cat. No. 735 microphone, mounted permanently and inconspicuously in the auditorium, works in conjunction with the Auditorium Assist feature provided in all CP650s to help you maintain consistently high performance from your cinema's sound system.

Once your room is initially aligned, Auditorium Assist uses the Cat. No. 735 to take measurements of the frequency response and level of each channel, plus the room's ambient noise floor, which are then stored within the CP650 as your Auditorium Reference. Thereafter, whenever you run Auditorium Assist, it takes the measurements again and compares them to the Auditorium Reference, all in less than 90 seconds. You are alerted to any discrepancies to help you diagnose and resolve faults that may have occurred in the speakers or other system components.

Cat. No. 790 Dolby Digital Surround EX/Digital Input Card

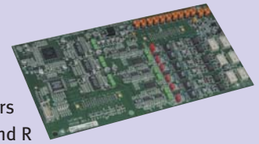
The Cat. No. 790 card, which is standard in the CP650 and CP650XO configurations, provides Dolby Digital Surround EX decoding. It also provides four AES3 inputs that accommodate up to eight channels of digital audio (at 44.1 and 48 kHz) from sources such as digital cinema servers, disks, tape playback systems, and satellite or cable links. The CP650 converts the digital audio to as many as six channels of analog audio (up to eight channels with a Cat. No. 791 installed) for playback through your sound system.

Cat. No. 778 Digital Input/Output Card (not shown)

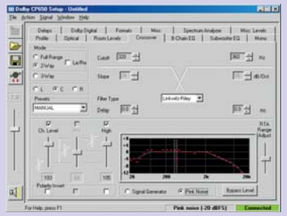
For dubbing studios requiring digital input and output, the Cat. No. 778 Digital Input/Output Card can substitute for the Cat. No. 790 to provide four AES/EBU digital inputs and up to five AES/EBU digital outputs.

(The Cat. No. 778 disables the CP650's analog output.)

Cat. No. 791 Digital Crossover Card



Cat. No. 791 Digital Crossover Card, which is standard in the CP650XO, integrates two- or three-way speaker crossovers into the CP650 for your L, C, and R screen speakers. It also provides outputs for full-range Le and Re screen speakers.



All audio processing is in the digital domain, enabling extensive settings and adjustments via a PC software package or built-in menus using the front-panel main display. As well as ensuring the highest possible performance from your screen speakers, the Cat. No. 791 eliminates the need for a stand-alone crossover unit.

(A Cat. No. 790 must be installed in the CP650 in order to add the Cat. No. 791.)

For additional information, contact *salesadmin@dolby.com*.

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CP650
Digital Cinema Processor

The Dolby CP650 is the best investment you can make in a cinema processor.

The Dolby® CP650 is the only all-digital cinema processor capable of playing back both digital and analog Dolby soundtrack formats. Its high quality, proven reliability, unrivaled versatility, and ease of setup have earned it a place in thousands of flagship cinemas worldwide. It can also accommodate new technologies such as digital cinema, ensuring a long and useful product life.

Four Configurations

The CP650's most popular configuration, simply designated CP650, processes Dolby SR and A-type analog, Dolby Digital, and Dolby Digital Surround EX™ soundtracks. It also provides four AES3 inputs for digital cinema audio. To these features, the top-of-the-line CP650XO adds built-in crossovers for screen speakers, eliminating the need for a stand-alone crossover unit.

For tighter budgets, the CP650SR comes equipped to process Dolby SR and A-type analog soundtracks only, while the CP650D adds Dolby Digital decoding; neither of these models includes Dolby Digital Surround EX decoding or digital audio inputs. However, as your needs change and new formats are introduced, you can upgrade any CP650 configuration with plug-in circuit cards and new software.

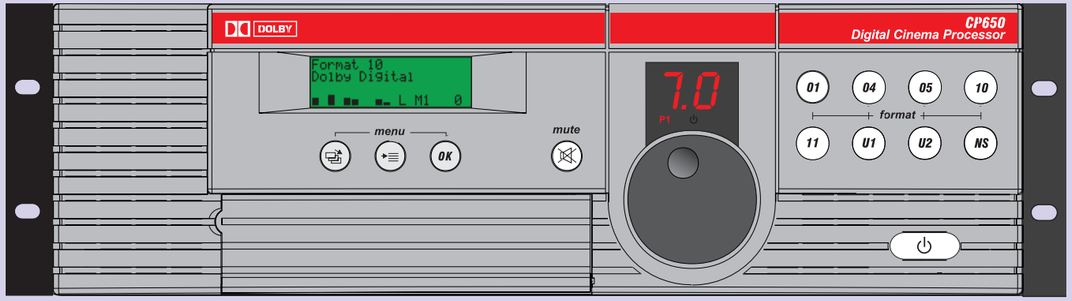
Exceptional Features

Built-in installation tools (including a real-time analyzer and the unique EQ Assist™ system) significantly reduce alignment time. In day-to-day operation, the Auditorium Assist™ feature can alert you to discrepancies from the sound system's initial calibration, signaling a fault such as a speaker driver failure.

The CP650 is most efficiently installed and calibrated with the help of a laptop PC running comprehensive setup software (available in several languages). Calibration can also be accomplished using the CP650's front-panel controls and main display. Software upgrades are conveniently accomplished from a PC.

A built-in Ethernet interface makes it possible to control and monitor the CP650 from a remote location—a head office hundreds of miles away from the cinema, for example.
A built-in bypass power supply helps ensure that the show can continue should a fault occur in the main CP650 power supply.

Dolby CP650 Digital Cinema Processor



CP650 Front Panel

Setup Control Panel Access Door
Mic input level control
Bypass output level control
Test points
RS-232C port (9-pin female D-connector) for PC connection
9-pin female D-connector, balanced, for a microphone or microphone multiplexer; phantom power available

Main Display
Shows current format signal level and processor condition
Displays setup and calibration information for use with menu buttons

Menu Buttons
Steps through menu pages
Selects parameters within a page (use main fader knob for parameter choices)
Store settings

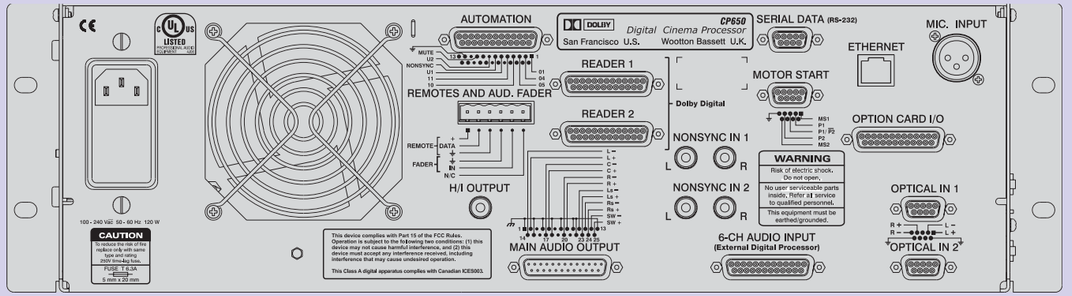
Mute Button
Mutes all audio outputs

Main Fader
Adjusts main audio output level

Fader Display
Shows fader setting, projector in use, bypass power supply condition

Format Buttons
Preprogrammed and user defined audio format control

Bypass Button
Selects main or bypass power supply



CP650 Rear Panel

Automation Connector
25-pin female D-connector for controlling and indicating format, fader select, projector status, and mute

Remote Unit/Fader Input
Terminal strip connector for
Dolby Cat. No. 779 remote control unit,
Dolby Cat. No. 771 remote fader,
external auditorium faders
(100 kΩ linear potentiometer)

Hearing Impaired Output
RCA-type female phono connector
Center-weighted sum of L, C, R
Output level: 200 mV fixed

Digital Reader Inputs
25-pin female D-connectors for two Dolby Digital readers

Main Audio Output
25-pin male D-connector, balanced or floating
Maximum level, balanced loads: +26 dBu (15.5 V)
Maximum level, unbalanced loads: +20 dBu (7.75 V)
Dolby level output adjust range: –31 to –12 dBu (20–780 mV)

Option Card I/O
25-pin female D-connector for digital bitstream input and surrounds output when equipped with the Cat. No. 790 option card
L, C, R mid and high crossover outputs with Cat. No. 791 option card

Nonsync Inputs
RCA-type female phono connectors for two stereo nonsync sources
Input impedance: 21 kΩ
Sensitivity: 0.2–4 V (NS 1), 0.06–1.5 V (NS 2)

Six-Channel Audio Input
25-pin female D-connector for external six-channel analog source
Input impedance: 10 kΩ (L, R), 27 kΩ (C, Ls, Rs, SW)
Operating level: 300 mV

RS-232C Serial Data Input Port
9-pin female D-connector to connect external PC for setup and automation control

Ethernet Connector
RJ-45 female for automation control and subtitling timing data

Motor Start
9-pin female D-connector for Dolby Digital reader motor start timing and projector changeover

Microphone Input
XLR female connector, balanced, for Auditorium Assist, PA, or B-chain alignment mic (or multiplexer)
Phantom power available (+15 V)

Optical Inputs
9-pin female D-connectors, balanced, for two stereo solar cells or analog LED readers
Power available for external cell preamp circuits (±14 V/40 mA)

Choosing Your CP650

The Dolby CP650 is available in a variety of configurations to suit every projection requirement.

In addition, upgrade kits are available that allow new configurations as needed:

UD/650—Upgrades the CP650SR to CP650D (includes Cat. No. 773)

UEX/650—Upgrades the CP650D to CP650 (includes Cat. No. 790)

UXO/650—Upgrades the CP650 to CP650XO (includes Cat. No. 791)

	CP650XO	CP650	CP650D	CP650SR
Dolby A-type analog (2:4)*	•	•	•	•
Dolby SR analog (2:4)	•	•	•	•
Dolby Digital, film sources	•	•	•	
Dolby Digital, non-film sources	•	•		
Dolby Digital Surround EX	•	•		
Screen speaker crossovers	•			
Le, Re support	•			

*Four A-type processors provided for L, C, R, S on 70 mm mag prints (separate mag preamps required)

Loudspeaker Equalization
L, C, R, Ls, Rs, Bsl, Bsr: digital 27-band, 1/3-octave
Le, Re (with optional Cat. No. 791): digital 27-band, 1/3-octave
SW: Digital parametric

Distortion
Typically 0.005% in Dolby SR mode (output –10 dBu, input 10 dB over Dolby level)

Dynamic Range
Typically 105 dB with fader set to 7

Power Requirements
100–120 and 200–240 VAC, 50–60 Hz, 100 W maximum (including built-in bypass power supply)

Dimensions and Weight
3-U rackmount chassis; faceplate: 133 × 483 mm (5.25 × 19 inches)
Maximum projection behind equipment rack rail: 365 mm (14.4 inches)
Maximum projection in front of mounting plate: 38 mm (1.5 inches)
Net: 10.4 kg (23 lb)

Environmental Conditions
Operating: 0°C–40°C (32°F–104°F), forced-air cooling, 20%–80% relative humidity (noncondensing)

Regulatory Notices
North America: This unit complies with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules, and Industry Canada ICES-003 specifications. It is UL Listed for the US and Canada. Europe: This unit complies with the requirements of Low Voltage Directive 3/23/EEC and EMC Directive 89/336/EEC and carries the CE marking accordingly.

Warranty
Two-year limited, parts and labor; see disclaimer.