DCM Features

- Provides Monitor and Crossover functions in one box
- Digital Signal Processing for State-of-the-art sound quality (high dynamic range)
- Fast system setup time (especially in megaplexes with similar rooms)
- Simple connections – only one cable per amplifier contains two signal inputs, two signal returns, power on/standby control and two channels of load monitoring
- Exclusive "Load Fault" detection indicates speaker system or wiring faults
- Simple crossover adjustments via PC with password control for tamper proof system adjustments
- Lower system cost than existing tri-amp solutions

Digital Signal Processing

The DCM's digital signal processing capability outperforms traditional analog crossovers for optimized speaker performance. Crossover frequency, parametric equalization, polarity and gain can be precisely adjusted for each speaker in your system. Digital delays, adjustable in 20 μs increments, assure proper acoustical time-alignment of loudspeaker drivers for smooth frequency response, especially critical in three-way systems. A passive emergency bypass crossover is also included for fail-safe operation.

Less wiring, faster setup

DCMs greatly simplify system wiring and setup, significantly reducing installation time and labor cost. Input to the DCM is provided via a standard DB-25 cable from the cinema processor. Connections to DCA amplifiers for input and monitor signals are made through a single VGA-style cable. All traditional XLR and barrier strip terminations are eliminated.

DCMs also simplify setup by using a menu-driven, PC-based software program for configuration. The program includes a speaker data file that lists default parameters for popular cinema speaker models. Commonly used configurations can also be saved on a disk, allowing you to quickly load them on other DCMs.

Advanced Monitor Functions

In addition to audio monitoring of amplifier inputs and outputs, DCMs include QSC's exclusive "Load Fault" detection. DCMs monitor all amplifier outputs and indicate opens and shorts in the speaker system and wiring via LED "load fault" indicators, providing confirmation that all amp outputs are functioning properly.

Format | DCM-1 | DCM-2 | DCM-3
--- | --- | --- | ---
6 Ch Bi-Amp | yes | yes | yes
6 Ch Tri-Amp | yes | yes | yes
8 Ch Bi-Amp | yes | yes | yes
8 Ch Tri-Amp | yes | yes | yes
Surround EX | yes | yes | yes

3 year warranty plus optional 3 year extended service contract!

QSC’s Digital Cinema Monitors provide signal processing and monitor functions in a single integrated system. Designed to be used with QSC’s Digital Cinema Amplifiers (DCAs), DCMs optimize loudspeaker performance while simplifying cinema sound system wiring and configuration. Three models—the DCM-1, DCM-2 and DCM-3—cover cinema systems ranging from six to eight channels configured for bi-amp or tri-amp operation. DCMs are also compatible with all cinema processor formats including Dolby Surround-EX.

The Power Behind the Pictures.
**GENERAL DESCRIPTION**

The QSC DCM acts as the interface between a 6 or 8 channel film audio processor and the power amplifiers in a bi-amp or tri-amp cinema sound system. The DCM performs two major functions: automatic and manual monitoring of processor and amplifier signals, and fully programmable crossover/EQ filtering.

**Dimensions:**
19"W X 5.25"H X 14"D

**Line Voltage Requirements:**
85 VAC–260 VAC, 50/60 Hz

**Accessories Included:**
(1) 6 ft. 2m1 UL/CSA line cord
(1) user manual
(1) software diskette, 3.5" HD

**FRONT PANEL CONTROLS**

**Power Switch:**
(1) rocker switch

**Monitor Mode Select:**
(1) momentary push button

**Monitor Channel Select:**
(6 or 8) momentary push buttons

**Monitor Volume:**
(1) rotary potentiometer

**Test Lead Connections:**
(2) test point jacks

**Bypass Mode Select Switch:**
(1) slide switch

**Diagnosics Button:**
(1) momentary pushbutton

**Indicators:**
(1) red LED
(1) green LED
(1) yellow LED

**REAR PANEL CONTROLS**

**Bypass Crossover Level:**
(2 or 3) rotary trimpots

**Surround EX Mode Switch:**
(1) slide switch

**Rear panel control connectors:**
(1) 25 pin female D-sub connector
(8, 11 or 15) 15-pin female high-density D-sub connectors
(1) 9 pin female D-sub connector

**Input:**
(1) 25 pin female D-sub connector

**Amplifier DataPorts:**
(6 or 8) green LEDs
(13 or 20) yellow LEDs

**RS232 Serial Port:**
(1) 9 pin female D-sub connector

**Powered Sub/Hearing Impaired Output:**
(1) 6 terminal screw-terminal connector

**Surround EX Insert Point:**
(1) 9 pin male D-sub connector
(1) IEC style with fuse

**AC Power Inlet:**
163W X 5.25"H X 14"D

**Screen Channels and Subwoofer:**
Active balanced

**Input Stage Type:**
(1) software diskette, 3.5" HD

**Input Impedance:**
20 kΩ

**Maximum Input Level:**
+14.2 dBu (4.0 Vrms)

**Maximum Input Level (Subwoofer channels):**
+18.2 dBu (6.4 Vrms)

**A/D Conversion:**
24 bit delta-sigma 128x oversampled

**Surround Channels:**
24 bit delta-sigma 128x oversampled

**DATAPORT OUTPUTS**

**Screen Channels:**
Output Attenuation Steps: 0 dB to –18 dB in 0.1 dB steps
Dynamic Range: 99 dB
THD+N 20 Hz-20 kHz, +12 dBu: 0.02%
Input Level, All Filters Flat: 20 Hz-20 kHz (no filtering)
Frequency Response: 24 bit delta-sigma 128x oversampled

**Subwoofer:**
Output Stage Type: Single ended (balanced impedance)
Output Attenuation Steps: 0 dB to –18 dB in 3 dB steps
Dynamic Range: 99 dB
THD+N 20 Hz-20 kHz, +12 dBu: 0.02%
Input Level, All Filters Flat: Digitally controlled analog on DCM-1, DSP on DCM-2 or 3
Filter Topology: Linkwitz-Riley 12 dB/octave filter. Q can be programmed as 0.707 or 2, flat or “step-down” operation.
Mute: One mute for all subwoofer outputs

**Hearing Impaired Output:**
Output Stage Type: Single ended (balanced impedance)
Output Impedance: 50Ω
Maximum Output Level: +14.2 dB (4.0 Vrms)
Nominal Output Level: +11.8 dB (200 mVrms)
Loading Requirements: R_MIN = 2 kΩ, C_MAX = 4 nF

**MONITOR SPEAKER**
Dimensions: 4-inch full range driver
Amplifier Output Power: 10 watt class AB amplifier
Frequency Response: 100 Hz-8 kHz (±2 dB)
Dynamic Processing: 1.5:1 compression

**DCM SPECIFICATIONS**

**D/A Conversion:**
24 bit delta-sigma 128x oversampled

**Frequency Response:**
20 Hz–20 kHz (no filtering)

**THD+N:**
20 Hz-20 kHz, +12 dBu: 0.02%

**Dynamic Range:**
0 dB to –18 dB in 3 dB steps

**Output Attenuation Steps:**
0 dB to –18 dB in 0.1 dB steps

**Delay:**
Available on high frequency outputs only

**Polarity:**
Normal, Inverted

**Mute:**
Individual mutes on each screen channel output

**MONITOR SPEAKER**
Dimensions: 4-inch full range driver
Amplifier Output Power: 10 watt class AB amplifier
Frequency Response: 100 Hz-8 kHz (±2 dB)
Dynamic Processing: 1.5:1 compression

**SCREEN CHANNELS AND SUBWOOFER:**
HI PASS FILTER:
24 bit digital IIR filters

**CROSSOVER FILTERS:**
Linkwitz-Riley 24 dB/octave digital filters programmable in approx. 1 Hz steps from 130 Hz to 15 kHz

**PARAMETRIC EQ:**
Digital bandpass constant Q filter with ±10 dB of boost/cut programmable in approx. 1/10th octave steps from 80 Hz to 15 kHz. Q is programmable in 1/10th octave steps from 1/10 to 2 octaves.

**CD HORN EQ:**
Available on high frequency outputs only
Available on high frequency outputs only
Programmable in 21.6s steps from 0 to 21 ms per output

**MONITOR SPEAKER**
Dimensions: 4-inch full range driver
Amplifier Output Power: 10 watt class AB amplifier
Frequency Response: 100 Hz-8 kHz (±2 dB)
Dynamic Processing: 1.5:1 compression

**SCREEN CHANNELS:**
Linkwitz-Riley 12 dB/octave filter. Q can be programmed as 0.707 or 2, flat or “step-down” operation.
One mute for all subwoofer outputs

**POWERED SUBWOOFER OUTPUTS**
(1) software diskette, 3.5" HD
(1) user manual
(1) software diskette, 3.5" HD

**AMPLIFIER CHANNELS:**
All ampl power on with DCM activation

**EMERGENCY BYPASS CROSSOVER:**
Filter Type: 1st order Butterworth, 2 or 3 way
Attenuation Range (trimpot): -6 dB to -24 dB

**HEARING IMPAIRED OUTPUTS**
(1) software diskette, 3.5" HD
(1) user manual
(1) software diskette, 3.5" HD

**POWERED SUBWOOFER OUTPUTS**
(1) software diskette, 3.5" HD
(1) user manual
(1) software diskette, 3.5" HD

**HARDWIRE PASS-THRU TO DAPORT OUTPUTS**
Via Surround EX Insert

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