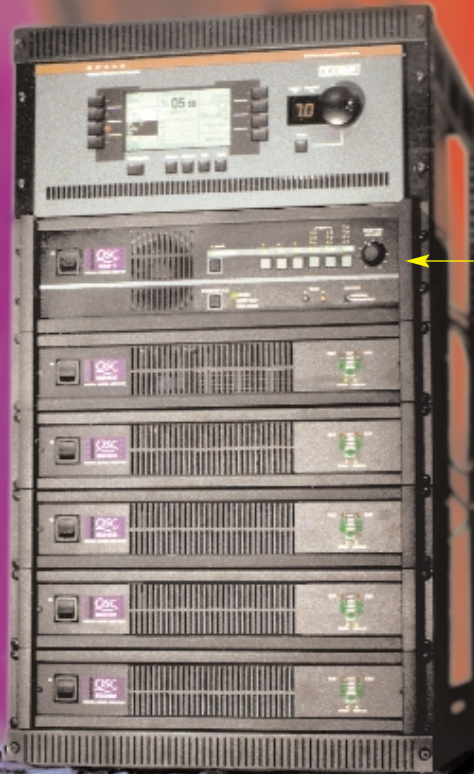




DCMs take advantage of DCA Dataports for less wiring and faster setup



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.

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 μ s 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 set-up, 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 set-up 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.

- 3 year warranty plus optional 3 year extended service contract!

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

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



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DCM SPECIFICATION

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. (2m) 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 |
| Diagnostics Button: | (1) momentary pushbutton |
| Indicators: | |
| Power Indicator: | (1) green LED |
| Monitor Mode Indicators: | (1) green LED and (1) yellow LED |
| Processor Channel Indicators: | (6 or 8) green LEDs |
| Amplifier Channel Indicators: | (13 or 20) yellow LEDs |
| Load Fault Indicator: | (1) red LED |
| Clip Indicator: | (1) red LED |

REAR PANEL CONTROLS

| | |
|---------------------------------------|---|
| Bypass Crossover Level: | (2 or 3) rotary trimpots |
| Surround EX Mode Switch: | (1) slide switch |
| Rear panel control connectors: | |
| Input: | (1) 25 pin female D-sub connector |
| Amplifier DataPorts: | (8, 11 or 15) 15-pin female high-density D-sub connectors |
| 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 |
| AC Power Inlet: | (1) IEC style with fuse |

DCM INPUTS

| | |
|---|---|
| Screen Channels and Subwoofer: | |
| Input Stage Type: | Active balanced |
| Input Impedance: | 20 k Ω |
| Maximum Input Level (Screen channels): | +14.2 dBu (4.0 Vrms) |
| Maximum Input Level (Subwoofer channels): | +18.2 dBu (6.4 Vrms) |
| A/D Conversion (Screen channels only): | 24 bit delta-sigma 128x oversampled |
| Surround Channels: | Hardwire pass-thru to DataPort outputs (via Surround-EX Insert) |

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 | |
| Input Level, All Filters Flat: | 0.02% |
| Frequency Response: | 20 Hz–20 kHz (no filtering) |
| D/A Conversion: | 24 bit delta-sigma 128x oversampled |

| | |
|---------------------------|---|
| Filter Topology: | 24 bit digital IIR filters |
| Crossover Filters: | Linkwitz-Riley 24 dB/octave digital filters programmable in approx. 1 Hz steps from 150 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 |
| Screen EQ: | Available on high frequency outputs only |
| Delay: | Programmable in 21 μ s steps from 0 to 21 ms per output |
| Polarity: | Normal, Inverted |
| Mute: | Individual mutes on each screen channel output |

| | |
|--|---|
| 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 | |
| Input Level, All Filters Flat: | 0.02% |
| Filter Topology: | Digitally controlled analog on DCM-1, DSP on DCM-2 or 3 |
| High Pass Filter: | 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 |
| Surround Channels: | Hardwire pass-through from processor input via Surround Insert |
| Output Channels (using the Surround Insert connector): | 2 or 3 selectable on rear panel |

AMPLIFIER A.C. CONTROL

all amps 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 |

POWERED SUBWOOFER OUTPUT

| | |
|--|---|
| Output Stage Type: | Single ended (balanced impedance) |
| Output Impedance: | 50 Ω |
| Maximum Output Level: | +14.2 dBu (4.0 Vrms) |
| Loading Requirements (total of remote & dataport connection): | R _{MIN} = 2 k Ω C _{MAX} = 4 nF |

HEARING IMPAIRED OUTPUT

| | |
|------------------------------|---|
| Output Stage Type: | Single ended (balanced impedance) |
| Output Impedance: | 50 Ω |
| Nominal output Level: | –11.8 dBu (200 mVrms) |
| Loading Requirements: | R _{MIN} = 2 k Ω C _{MAX} = 4 nF |

SURROUND INSERT I/O

| | |
|---------------------------|---|
| Output Stage Type: | Hardwired connection to processor input connector |
| Input Stage Type: | Hardwired connection to DataPort output connector |

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 |