

Designed and Engineered in the USA by

**Directed**  
ELECTRONICS, INC.

# Precision**Power**<sup>TM</sup>

*Absolutely State of the Art Mobile Audio*<sup>TM</sup>

2004

# PrecisionPower™

Absolutely State of the Art Mobile Audio™

For more than 20 years, PrecisionPower™ products have been designed and engineered with one defining purpose: to be the embodiment of "Absolutely State of the Art Mobile Audio™." This focused pursuit combined with a rich heritage of knowledge gained from competition and through product excellence has resulted year after year in designs that set new standards for others to meet.

2004 marks yet another year of innovation for PrecisionPower™ with the proud introduction of the all new DCX amplifier line. Joining the unique DCX Dual Gap subwoofer and DCX neodymium component speaker products released in mid 2003, these sleek powerful amps combine the latest in amplifier technologies with legendary PrecisionPower™ features and performance. In addition, a new series of high-performance coaxial and component speaker models expands the competitively positioned PowerClass® product line. Joining the legendary DEQ-230 and FRX-456 competition processors are two new models, the PAR-650 five band parametric equalizer and a new digital bass processor called MaxxBass®. With this powerful, unique product offering, there's never been a better time to be an authorized PrecisionPower™ retailer.



The pages that follow this introduction list in detail the complete state of the art product offering for *PrecisionPower*™. Behind these remarkable products stand an incredible array of technology-driven features and design elements that assure each product delivers on its promise of superb performance and quality.

## DCX AMPLIFIER TECHNOLOGY

- **Regulated Class D Mono Block Design**
  - Stable power delivery across wide range of supply voltage
  - 1 ohm optimized for extreme SQL applications
  - Externally bridgeable for doubling available power

- **Forced Air Thermal Management**
  - Thermally-controlled fan
  - Separate intake and exhaust plenums
  - Quiet DC brushless fans

- **Advanced Instrumentation Inputs**
  - Virtually eliminates injected noise
  - Up to 40 dB of noise rejection
  - Uses standard RCA cables

- **TC-X Crossover**
  - Front channel functions as a 2-way, tracking crossover
  - Allows rear channel to be configured for bandpass operation
  - Complete control of frequencies from 30Hz - 4kHz

- **QBASS™ Plus**
  - Selectable frequencies: 30, 36, 44 or 60Hz
  - Preset "Q" of 4
  - Variable boost up to 15dB

- **QBASS™ Plus Remote**
  - Remote Controller for QBASS Plus amplifiers
  - Dash mountable
  - Controls multiple amplifiers
  - Removable from chassis
  - Complete signal isolation

## DCX & POWERCLASS LOUDSPEAKER TECHNOLOGIES

- Patent-pending Dual Gap Geometry motor design (DCX subwoofers)

- Ultra-rigid, lightweight foamed polypropylene cones on all models

- Conformally-joined Santoprene surrounds

- Proprietary custom tooled baskets

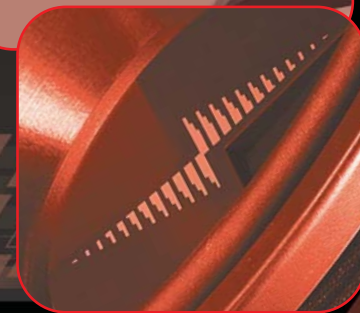
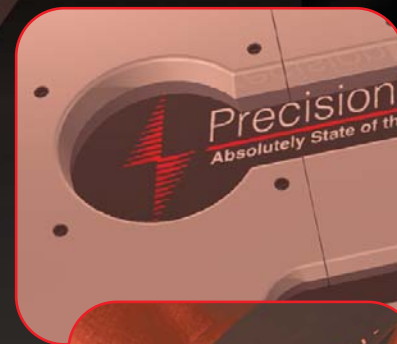
- *AngleLock* terminals (DCX subwoofers)

- Unique off-center cone design allows midrange to be aimed (DCX speakers)

- R-Gap underhung neodymium motor with active cone braking (DCX speakers)

- Vapor-deposit titanium dome tweeters

- Forced-air cooling (DCX models)



# MONO AMPLIFIERS

For the first time, *PrecisionPower*™ combines its rock-solid PWM regulation with the efficient power delivery of class D. These three all-new mono block designs feature extraordinarily robust power supplies and ultra-flexible front ends, all housed in a sleek new industrial design. With die-cast covers securing Plexiglas top trim panels, ultra-rigid extruded chassis, and top panel mounted diagnostic LED's, the style is as advanced as the performance.

## DCX MONO BLOCK MODEL FEATURES

- Regulated design for guaranteed power delivery
- 1 ohm stable - perfect for extreme SQL applications
- Externally bridgeable in pairs for extreme power applications
- Q BASS™ Plus remote

DCX 500.1



DCX 1000.1



DCX 1500.1



# 2-CHANNEL AMPLIFIERS

DCX 300.2



All-new for 2004, the DCX 300.2 and DCX 500.2 utilize massive MOSFET power supplies and pure class AB Darlington-configured complementary bipolar output stages. Their Advanced Instrumentation Inputs reject up to 40dB of induced interference, assuring an ultra-low noise floor. Ultimate system flexibility is assured via the full-featured built-in crossovers that control internal and external frequency assignment.

## DCX 2 CHANNEL MODEL FEATURES

- Flexible 2-way TC-X internal crossover with configurable line out
- High-voltage input capability with selectable 12dB attenuation
- Mixed mono/stereo operation
- 2 ohm stereo stable
- Q BASS Plus

DCX 500.2



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# MULTI-CHANNEL AMPLIFIERS

Four new multi-channel DCX amplifiers give you limitless system configuration potential. The heart of this uniquely configurable design is the legendary TC-X crossover. This flexible, highly accurate built-in active crossover allows complete internal and external control of frequencies from 30-4KHz in high-pass, low-pass, or full-range configurations. This absolute control is integrated with four and five channel class AB output stages that range from 300 to a stellar 1,000 watts... mobile power delivery has never been more pure and precise.

DCX 800.5

## DCX MULTI CHANNEL MODEL FEATURES

- Fully regulated design for guaranteed power delivery (DCX 1000.4)
- Flexible TC-X crossover with configurable line out
- High-voltage input capability with selectable 12dB attenuation
- Mixed mono/stereo operation
- 2 ohm stereo stable
- Q BASS™ Plus (DCX 300.4 features Q BASS™)

DCX 1000.4

DCX 600.4



DCX 300.4



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# DCX SUBWOOFERS

DCX 102/104

Launched in mid-2003, the DCX (short for Dynamically Controlled eXcursion) subwoofer continues a *PrecisionPower*™ legacy of very high performance, innovative subwoofers going back to the flat piston Pro subwoofers that captured two SPL world championships. Built for supreme accuracy but capable of very high sound pressure levels, DCX subs feature a unique new motor design called Dual Gap Geometry (patent pending) that centers a short, lightweight voice coil between two magnetic gaps. The resulting ultra light moving mass is driven through a far more linear stroke by the flatter, extended magnetic field. Careful balancing of excursion limits and power handling results in one of the most accurate, high output subwoofers available today. Dual spiders on a ventilated spider ring keep the moving mass centered throughout its stroke and improve airflow for better cooling. All of this results in a subwoofer that maintains extreme linearity and limits distortion while keeping its cool at power input up to 1,000 watts.



DCX 122/124



DCX 152/154



## DCX FEATURES

- Massive die-cast basket supports integrated Dual Gap motor assembly (patent pending)
- Forced-air cooling via vented spider ring and extended pole piece
- Ultra-rigid foamed polypropylene cone and conformally joined Santoprene surround
- Proprietary *AngleLock* wiring terminals accept heavy gauge cabling
- Tooled rubber wrap-gasket for air-tight seal in front or rear mount applications
- Dual 2 or dual 4 ohm models in 10", 12", and 15" sizes
- Continuous power handling 1,000 watts

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# DCX COMPONENT SPEAKERS

The list of innovative and breakthrough-engineering design elements of these remarkable speakers is extensive; virtually every part has been reinvented to achieve revolutionary advances in small speaker accuracy and overall performance. *PrecisionPower™* DCX component speakers are the new standard for full-range speaker performance in vehicles. In every aspect of their design and performance, they live up to the mandate of Absolutely State of the Art Mobile Audio™.



DCX 650S



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## DCX SPEAKER FEATURES

- R-Gap underhung neodymium motor design (patent pending)
- Unique off-center cone technology allows midrange output to be aimed higher for superior imaging and soundstage
- Off-center cones and R-Gap motors with dynamic braking yield far lower distortion than conventional speaker designs
- High power handling achieved through oversized 1.5" copper-clad aluminum voice coils, forced air cooling, and DCX technology
- Combination of high efficiency and high Q ensures optimal "up front bass" localization
- Proprietary die-cast basket supports foamed poly cone with conformally attached Santoprene surround
- Off-center low profile neodymium motor structure makes speaker easier to fit in tight spaces
- 25mm vapor-deposit titanium dome tweeter with nitrile butyl rubber edge roll to control resonance
- Component crossovers feature LEAP modeled, impedance optimized design with 3rd order Butterworth acoustic response
- Polypropylene capacitors, non-inductive resistors, and air core inductors used throughout
- Bi-wireable, with built-in tweeter protection and 4 position tweeter level adjustment



DCX 525S



# POWERCLASS® SUBWOOFERS

*PowerClass*® subwoofers offer the same ultra-rigid foamed polypropylene and strong performance in small enclosures as the flagship DCX product, but with more modest power handling and price targets. The heavy gauge steel baskets are tooled to reflect the same cutting-edge industrial design as DCX, while supporting very good excursion driven by less massive conventional motor assemblies. *PowerClass*® subs handle 500 watts peak, making them a good match for the new *PowerClass*® coaxial and component speakers. Overall, *PowerClass*® subwoofers offer a strong combination of competition-grade performance and good looks, making them an excellent choice for mobile audio enthusiasts.

PC 102/104



PC 122/124



## POWERCLASS® FEATURES

- Heavy gauge deep draw steel baskets with proprietary PrecisionPower™ industrial design
- Ultra-rigid foamed polypropylene cones with conformally attached Santoprene surround
- Excellent SQL performance in small sealed or vented enclosures
- Tooled rubber wrap-gasket for air-tight seal in front or rear mount applications
- Dual 2 or dual 4 ohm models in 10" and 12" sizes
- Peak power handling 500 watts

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# POWERCLASS® COMPONENT & COAXIAL SPEAKERS

All-new for 2004, *PowerClass*® coaxial and component speakers also feature proprietary *PrecisionPower*™ industrial design. Construction details include state of the art materials such as ultra-rigid foamed polypropylene cones, and tweeters made by vapor depositing titanium on a non-resonant dome structure that is suspended by a synthetic rubber surround to create smooth, extended high frequency response. These new speakers are visible and audible proof that state of the art doesn't have to cost a fortune.

PC 525S



PC 650S



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## PC COAXIAL & COMPONENT SPEAKER FEATURES

PC 525C



- Deep draw steel baskets with proprietary *PrecisionPower™* industrial design
- Ultra-rigid foamed polypropylene cones with conformally attached Santoprene surrounds
- 19mm vapor deposit titanium dome tweeters combine accuracy and efficiency
- Available in 5.25", 6.5", 5"x7", and 6"x9" coaxial models with built-in tweeter protection
- 5.25" and 6.5" component models with outboard passive crossovers
- Tweeters swivel for precise imaging and soundstage adjustment

PC 650C



PC 670C



PC 690C





# SIGNAL PROCESSORS

For 2004, PrecisionPower™ introduces a revolutionary signal processor called MaxxBass®. An industry exclusive design, this advanced digital bass enhancement device uses DSP and psychoacoustics to cleverly manipulate bass delivery to the ear, resulting in drastically improved low bass performance while reducing power demand and cone excursion simultaneously. This amazing technology delivers convincing "up front bass" localization in systems with or without subwoofers, allows systems without subwoofers to sound like they have subs, and makes systems with space or power limited subwoofer solutions sound full and deep. Other signal processors for 2004 include the new PAR-650, a five band parametric in-dash EQ; and the legendary DEQ-230 and FRX-456 competition-grade components. Designed for the advanced user, these powerful signal processors incorporate features like balanced regulated power supplies, balanced differential inputs, and military-grade components in all key circuits. Nobody does signal processors like PrecisionPower™.



## SPECIFICATIONS

MODEL	TYPE	DIMENSIONS (WxLxH)	FREQUENCY RESPONSE	S/N RATIO	THD	SUPPLY VOLTAGE	MAX OUTPUT
<b>PROCESSORS</b>							
DEQ-230	1/3 Octave EQ 30 Band Equalizer Pre Amp Line Driver	5-1/8" x 15-3/4" x 1-7/8"	10Hz-50kHz	102dB	0.02%b	10V - 16V	8V RMS
PAR-650	5 Band Parametric EQ w/ Defeatable 2-Way Crossover & 3 Source Control	7" x 5" x 1"	20Hz - 60kHz	100dB	0.005%b	10V-16V	6V RMS (F/R) 10V RMS (SUB)
FRX-456	2/3/4 Way Active Crossover	5-1/8" x 10-1/2" x 1 7/8"	10Hz-100kHz	102dB	0.02%b	10V-16V	8V RMS
MAXBASS®	Digital Bass Enhancer w/ Remote Density Control	6" x 4-1/2" x 1"	20Hz-20kHz	85dB	0.10%b	10V-16V	5V RMS
GBASS REMOTE	Remote Controller for GBASS Plus	1-5/8" x 1-3/4" x 1-1/4"	N/A	N/A	N/A	N/A	N/A

# AUDIO ESSENTIALS

## STYLE & SUBSTANCE

Directed Audio Essentials premium and ultra-premium audio accessories are engineered to optimize the performance of *PrecisionPower*™ components, and are recommended for use with all other brands of fine mobile audio products. Engineered to reject noise while maximizing signal transfer and power, Directed Audio Essentials are carefully designed to achieve the highest attainable levels of sound quality and SPL. The ultimate in style and substance, Directed Audio Essentials utilize precision-machined black chrome-plated components, with oxygen-free copper cabling, smoked polycarbonate and cutting-edge industrial design. The very finest materials available, designed and manufactured under the guidelines of an ISO-9001 registered quality system, to take your audio system installation to extreme levels, and beyond!

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# SPECIFICATIONS

## AMPLIFIERS

MODEL	WATTS PER CHANNEL 4 OHM	WATTS PER CHANNEL 2 OHM	MONO OPERATION	THD+N	S/N RATIO	FREQUENCY RESPONSE	DAMPING FACTOR
<b>MONO</b>							
DCX 500.1	200x1	300x1	500W x1 @ 1 ohm	0.80%b	>80dB	20-200Hz	>50
DCX 1000.1	400x1	600x1	1000W x1 @ 1 ohm	0.80%b	>80dB	20-200Hz	>50
DCX 1500.1	500x1	1000x1	1500W x1 @ 1 ohm	0.80%b	>80dB	20-200Hz	>50
<b>2 CHANNEL</b>							
DCX 300.2	75x2	150x2	300W x1 @ 4 ohm	0.08%b	>100dB	10Hz-50kHz	>250
DCX 500.2	125x2	250x2	500W x1 @ 4 ohm	0.08%b	>100dB	10Hz-50kHz	>300
<b>4 CHANNEL</b>							
DCX 300.4	50x4	75x4	150W x2 @ 4 ohm	0.08%b	>100dB	10Hz-50kHz	>250
DCX 600.4	75x4	150x4	300W x2 @ 4 ohm	0.08%b	>100dB	10Hz-50kHz	>250
DCX 1000.4	125x4	250x4	500W x2 @ 4 ohm	0.08%b	>100dB	10Hz-50kHz	>300
<b>5 CHANNEL</b>							
DCX 800.5	50x4	100x4	200W x2 @ 4 ohm	0.08%b	>100dB	10Hz-50kHz	>300
(Sub Channel)	200x1	400x1	400W x1 @ 2 ohm	0.10%b	>100dB	10Hz-50kHz	>300

## SUBWOOFERS

MODEL	SIZE	POWER HANDLING	IMPEDANCE	FREQUENCY RESPONSE	EFFICIENCY	Fs / Hz	Re	Qts
<b>DCX</b>								
DCX 102	10"	1000 RMS	dual 2 Ohm	40-2500Hz	84dB ( 1W/1M )	37	3.2	0.54
DCX 104	10"	1000 RMS	dual 4 Ohm	40-2500Hz	84dB ( 1W/1M )	40	7.6	0.61
DCX 122	12"	1000 RMS	dual 2 Ohm	30-2500Hz	85dB ( 1W/1M )	34	3.2	0.61
DCX 124	12"	1000 RMS	dual 4 Ohm	30-2500Hz	85dB ( 1W/1M )	36	7.6	0.69
DCX 152	15"	1000 RMS	dual 2 Ohm	25-2500Hz	88dB ( 1W/1M )	34	3.2	0.76
DCX 154	15"	1000 RMS	dual 4 Ohm	25-2500Hz	88dB ( 1W/1M )	30	7.0	0.70
<b>POWERCLASS</b>								
PC 102	10"	250 RMS / 500 peak	dual 2 Ohm	40-2500Hz	84dB ( 1W/1M )	25	3.7	0.50
PC 104	10"	250 RMS / 500 peak	dual 4 Ohm	40-2500Hz	83dB ( 1W/1M )	27	6.9	0.57
PC 122	12"	250 RMS / 500 peak	dual 2 Ohm	30-2500Hz	85dB ( 1W/1M )	28	3.7	0.54
PC 124	12"	250 RMS / 500 peak	dual 4 Ohm	30-2500Hz	86dB ( 1W/1M )	31	7.8	0.57

## COAXIALS & COMPONENT SPEAKERS

MODEL	SIZE	POWER HANDLING	IMPEDANCE	FREQUENCY RESPONSE	EFFICIENCY	TWEETER DESCRIPTION
<b>COAXIALS</b>						
PC 525C	5.25"	50 RMS / 100 Peak	4 Ohm	50Hz-100kHz	90dB ( 1M/2.83V )	19mm Vapor Deposit Titanium
PC 570C	5x7	50 RMS / 100 Peak	4 Ohm	80Hz-20kHz	91dB ( 1M/2.83V )	19mm Vapor Deposit Titanium
PC 650C	6.5"	150 RMS / 200 Peak	4 Ohm	90Hz-20kHz	90dB ( 1M/2.83V )	19mm Vapor Deposit Titanium
PC 690C	6x9	150 RMS / 200 Peak	4 Ohm	70Hz-20kHz	91dB ( 1M/2.83V )	19mm Vapor Deposit Titanium
<b>COMPONENTS</b>						
PC 525S	5.25"	50 RMS / 100 Peak	4 Ohm	90Hz-20kHz	92dB ( 1M/2.83V )	19mm Vapor Deposit Titanium
PC 650S	6.5"	60 RMS / 120 Peak	4 Ohm	90Hz-20kHz	92dB ( 1M/2.83V )	19mm Vapor Deposit Titanium
DCX CTS	1"	150 RMS / 200 Peak	4 Ohm	3.5-22kHz	93dB ( 1W/ 2.83V )	25mm Titanium Dome
DCX 525S	5.25"	150 RMS / 200 Peak	3 Ohm	65-22kHz	89dB ( 1M/2.83V )	25mm Titanium Dome
DCX 690S	6.5"	170 RMS / 220 Peak	3 Ohm	57-22kHz	91dB ( 1M/2.83V )	25mm Titanium Dome

CROSSOVER TYPE RANGE / SLOPE	FAN	Q-BASS™ LEVEL	DIMENSIONS L x W x H
LP, 30-250 Hz, 24dB/octave	No	QBASS Plus/Remote	11-7/8"x10-1/2"x2-3/4"
LP, 30-250 Hz, 24dB/octave	No	QBASS Plus/Remote	13-7/8"x10-1/2"x2-3/4"
LP, 30-250 Hz, 24dB/octave	No	QBASS Plus/Remote	19-1/8"x10-1/2"x2-3/4"
2-Way, 30Hz-4kHz, 12dB/octave	No	QBASS Plus/Remote	13-7/8"x10-1/2"x2-3/4"
2-Way, 30Hz-4kHz, 12dB/octave	Yes	QBASS Plus/Remote	16-1/8"x10-1/2"x2-3/4"
2-Way, 30Hz-4kHz, 12dB/octave	No	QBASS	16-1/8"x10-1/2"x2-3/4"
2-Way, 30Hz-4kHz, 12dB/octave	No	QBASS Plus/Remote	19-1/8"x10-1/2"x2-3/4"
2-Way, 30Hz-4kHz, 12dB/octave	Yes	QBASS Plus/Remote	23-5/8"x10-1/2"x2-3/4"
2-Way, 30Hz-4kHz, 12dB/octave	Yes	QBASS Plus/Remote	22-5/8"x10-1/2"x2-3/4"
2-Way, 30Hz-4kHz, 12dB/octave			

Vas / Liter / ft3	Xmax	Depth
17.4 / 0.61	19mm	6 1/2"
16.8 / 0.59	19mm	6 1/2"
37.1 / 1.30	19mm	7 3/4"
38.0 / 1.34	19mm	7 3/4"
87.9 / 3.10	19mm	8 3/4"
110.3 / 3.89	19mm	8 3/4"
52.6 / 1.85	14mm	5 1/2"
42.7 / 1.50	14mm	5 1/2"
58.1 / 2.05	14mm	6 1/4"
0.57 / 2.02	14mm	6 1/4"

CROSSOVERS	Depth
Integrated 6dB w/ protection	2-7/8"
Integrated 6dB w/ protection	2-7/8"
Integrated 6dB w/ protection	2-15/16"
Integrated 6dB w/ protection	3-7/16"
Outboard 2-way 6/12dB w/ protection	2-7/8"
Outboard 2-way 6/12dB w/ protection	2-15/16"
12dB Symmetrical acoustic response	1"
18dB Symmetrical acoustic response	2-1/2"/1"
18dB Symmetrical acoustic response	2-3/4"/1"

