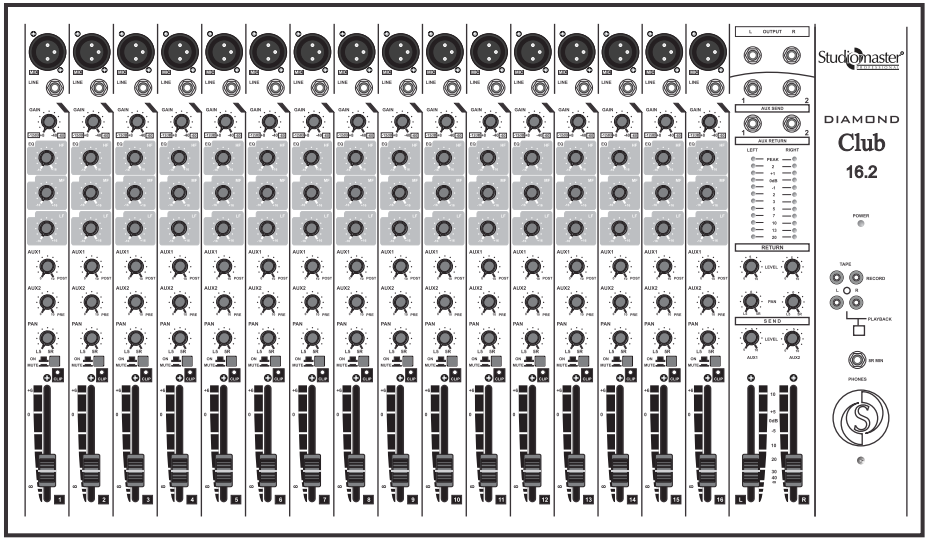
INSTRUCTION MANUAL

Studiomaster®
PROFESSIONAL

Diamond Club Series

6.2, 8.2, 8.2EFX, 12.2, 12.2EFX, 12.2U, 12.2UR, 16.2, 16.2EFX



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1. Introduction

Thank you for buying the Studiomaster Professional Diamond Club Series Mixer.

To ensure maximum performance and safety, please follow this instruction manual carefully.

Please retain this manual for future reference.

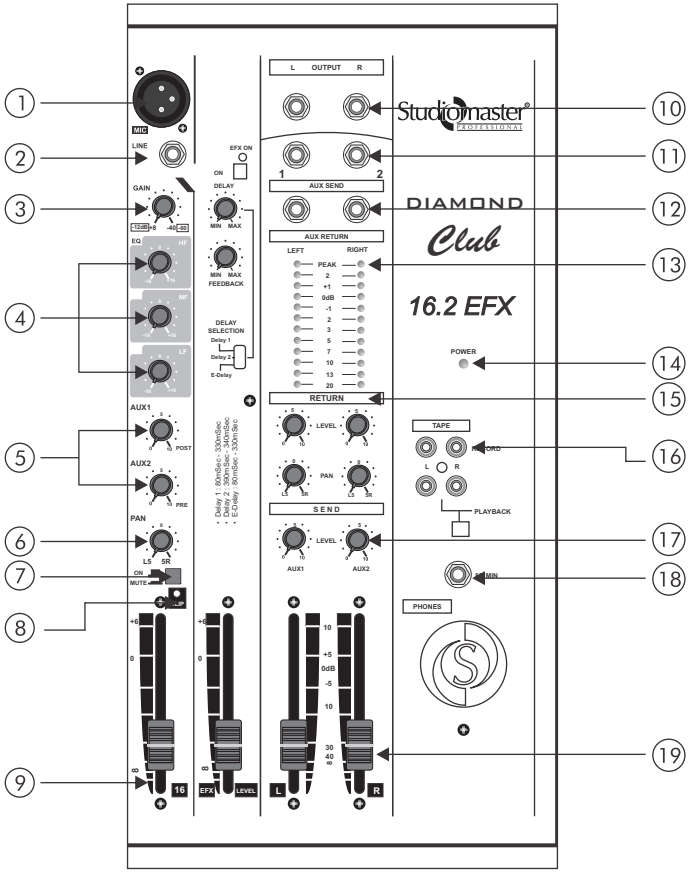
For any complaint, feedback or testimonials please contact our distributor / dealer.

Retain the cartons for future use should the product require servicing / maintenance.

2. Features at a Glance

- Gain control with 3 Band EQ per channel.
- 2 Aux Sends/ Returns.
- 1 Pre and 1 Post Aux Sends Rotary Control per Channel.
- L/R Pan Pot, Mute Switch and Clip LED per Channel.
- Stereo Tape in/tape out, Headphone out.
- 12 segments L/R LED meter for Master Level.
- ¼ TRS Balanced L/R Main Output.
- Built-in echo/delay processor with unique E-delay. (Available in 8.2EFX, 12.2EFX, 16.2EFX)
- USB MP3 music player. (Available in 12.U & 12.2UR)
- Built-in audio recorder & media playback from USB/SD/MMC Card. (Available in 12.2UR)

3. Input Section



The input sections of the Diamond Club Series mixers have two connectors XLR MIC & ¼" Jack inputs. Please do not use both the inputs at the same time. Doing this may permanently damage the equipment. Please ensure the gain levels, the fader levels & the Aux controls are set to minimum while connecting or disconnecting inputs.

1. MIC Inputs: This electrically balanced XLR input is designed to accept low impedance balanced signals from microphones.

2. Line Inputs: The line input will accept line level balanced or unbalanced signal using ¼" stereo (TRS) Jack. The line input is designed for instruments like Keyboards, Guitars, Drum Machines & other electronic instruments.

Balanced XLR	
Pin 1	Ground
Pin 2	Hot (+ve Phase)
Pin 3	Cold (-ve Phase)

Balanced TRS	
Tip	+ve Phase
Ring	-ve Phase
Sleeve	Ground

Un-Balanced TRS	
Tip	Signal
Sleeve	Ground

3. **Gain Control:** This knob is used to gain both MIC & Line inputs signals. Please do not operate at high gain levels as this distorts the signal & lead to audio clipping.

4. **EQ Section:** The Diamond Club series has 3 Band Equalizer on all MIC & Line inputs. The EQ is designed to be easy yet effective to use. It can be used to cut or boost certain frequencies to achieve a particular tone, or to eliminate any unpleasant characteristics.
   - HF Control: The HF control can be used to cut or boost up to +/- 16dB at 10 kHz.
     Tip: This frequency band can be used to brighten up high frequencies.
   - MF Control: The MF control can be used to cut or boost up to +/- 16dB at 2.5 kHz.
     Tip: This frequency band can be used to enhance presence in vocals.
   - LF Control: The LF control can be used to cut or boost up to +/- 16dB at 100Hz.
     Tip: This frequency band can be used to get a punchy bass response.

5. **AUX Section:** The AUX is provided to be used with external effect processors like reverb & delay units, compressors, gates etc. It can also be used for on stage monitoring or as an input in to a recorder.
   * AUX1 / EFX Control: This knob is used to control the send level to the AUX 1 out or built-in EFX. AUX 1 is 'Post' fader and generally used for effect processors. The level of the channel fader will affect the signal level.
   (EFX is only available in 8.2EFX, 12.2EFX & 16.2EFX)
   * AUX 2: This knob is used to control the send level to the AUX 2 out. AUX 2 is 'Pre' fader and generally used for monitoring. The level of the channel fader will have no affect on the signal level. (Please note output from external processors connected via the AUX busses will have to be input in to the AUX return section)(See Pt. 12 Pg. 3)

6. **Pan Control:** This knob can be used to pan the incoming signal between the left & right output channel.

7. **Mute:** This self illuminated switch is used to mute/stop the channels signal to the master output. The switch lights up to indicate that a channel is muted.

8. **Clip/Peak LED:** This LED glows when the incoming audio signal is clipping. Please reduce gain levels to reduce clipping.

9. **Channel Fader:** This fader is used to set the level of the incoming signal to the master output. It provides a visible indication of the channel level. Normal operating position is at "0"; however you have an optional headroom of up to +6dB.

4. Output Section (Please refer to the diagram on Pg. 3)

10. Master (L/R) Output:: This output is used to connect the master output to the amplifier or powered speakers using ¼" balanced jack connectors. The output level is determined by the master fader. Following is the wiring configuration:

Pin 1 = Ground	Pin 2 = Hot (+ve Phase)	Pin 3 = Cold (-ve Phase)

11. Aux Sends: These ¼" unbalanced jack can be used to send signals to external devices like effects processor or providing monitor mixes. The AUX knob on individual channels can be used to send that input to the AUX bus. Following is the wiring configuration:

Tip = Signal	Sleeve = Ground

12. Aux Return: These ¼" unbalanced jack inputs are used to bring back returns (processed signal) from external effects processors back in to the mixer. Following is the wiring configuration:

Tip = Signal	Sleeve = Ground

13. LED Level Meters: The Diamond series mixers incorporates 2 x 2 colours, 12 segment LED level meters which display Left & Right output levels. [Calibrated 0VU = +4dBm. (Typical VU ballistics)

14. Power LED: This Blue LED indicates the unit is powered ON.

15. Aux Return Level & Pan Controls: These 4 knobs controls the input levels and pan controls of the processed effect signal.

16. Tape Record/Playback: The Diamond club series mixers have 2 stereo RCA connectors for recording or playback.
    - Record: This RCA output out is provided to record master mix on to a recording media like tape machine, hard disk recorders and computer based audio interfaces etc. The output level of this determined by the master L/R fader; alternately the input level on the recording medium can be used for the same.
    - Playback: This RCA input is provided to connect external devices like tape decks, iPod's, mp3 players etc.
    - Tape Selection: To toggle between the two record mode & playback mode.

Please Note: Do not press the playback button while recording, especially when using the same device for recording & play back, this will send the output signal back to the input and cause oscillations.

17. Aux Send Controls: These knobs are used to control the overall output level for all signals sent via Aux 1 & 2 from the input channels.

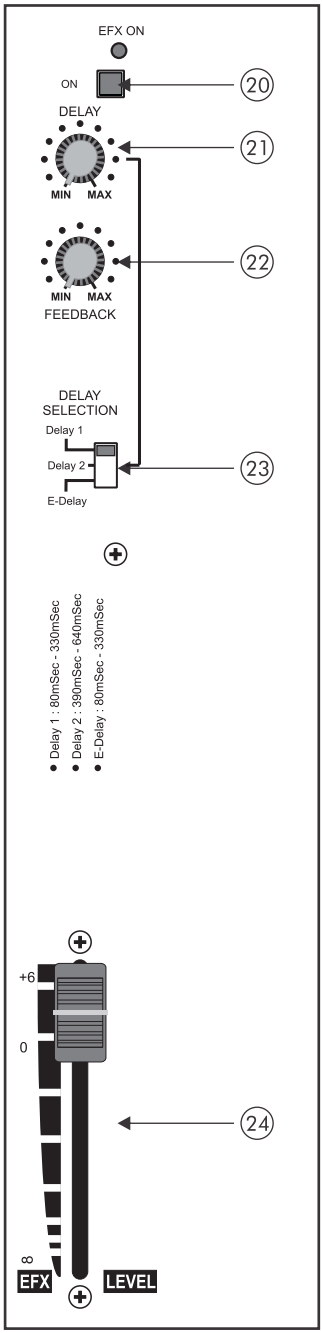
18. Headphone Out: The ¼" Headphone Output socket carry the signal from the Left/Right outputs and the level is set automatically by the L & R faders. Please do not use headphones less than 8Ω impedance. Following is the wiring configuration:

Tip = Left Signal	Ring = Right Signal	Sleeve = Ground

19. Master (L/R) Fader: The Left & Right Faders are the master output level control. They determine the level of all signals sent by the channel faders, Aux returns and Tape playback to the L/R OUTPUT jacks.

5. Effects Section (Available only in 8.2EFX, 12.2EFX, 16.2EFX models)

Some mixers in the Diamond Club series incorporate a built-in high quality digital delay effects processor with simple and intuitive controls.



20. EFX Switch:

This switch is used to switch the effect section ON or OFF. The Red LED indicates the EFX section is ON.

21. Delay Time Knob:

This knob is used to change the delay time. The delay time depends on the delay mode selected (See. Pt 23)

22. Feedback Knob:

This knob is used to control the feedback time of the delayed signal. Be careful while using this knob, as this may cause feedback loops or unpleasant loud howls, which may damage some equipment.
If this occurs please minimize the feedback knob.

23. Delay Selection Switch:

This switch is used to toggle between the 3 delay time ranges.
* Delay 1: Has a delay time ranging from 80ms up to 330ms.
* Delay 2: Has a delay time ranging from 390ms up to 640ms.
* E-Delay: This unique has a delay time ranging from 390ms up to 640ms with a shadow effect.

The delay can be increased from maximum to minimum with the help of the delay time knob (See. Pt.21)

24. EFX Level Fader

This fader controls the output level of EFX signal.

6. ***USB Media Player Section*** (Available only in the D12.2 USB model)

This mixer has the same functionality and ease of operation of the Diamond Deluxe series with the additional provision of a built-in MP3 player (USB plug and play). The last input channel offers an additional input for use with any USB MP3 flash memory (pen-drive). The line can be switched the 6.3mm line input or the USB input.

- LED Display: Displays the track number.
- USB Slot: Insert USB storage devices in to this slot. For a full list of supported formats please refer to the USB models performance section on Page 9.
- Line/USB switch: This switch is used to toggle between the line mode and the USB mode. The red LED indicated USB mode active.
  Please Note: Only one of the modes can be used at the same time, either the regular channel mode or the USB player mode.
- Transport Controls:

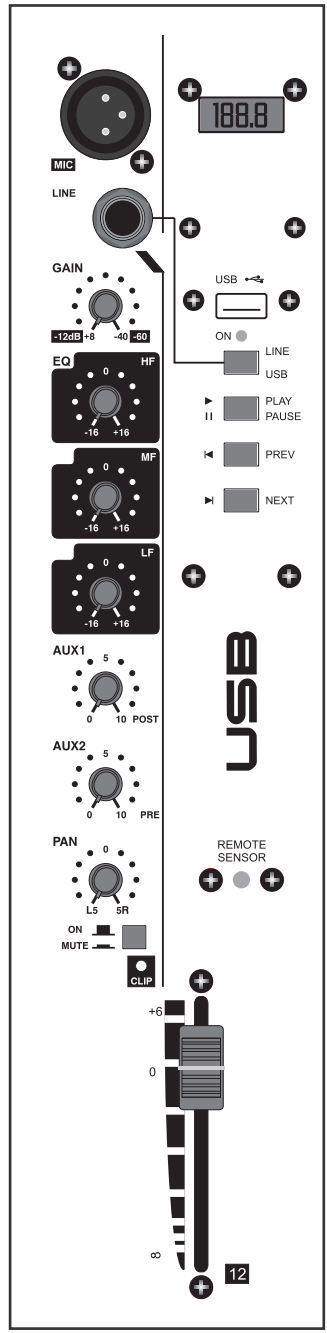
▶ PLAY: Press to play the track.

❙❙ PAUSE: Press to pause the track.

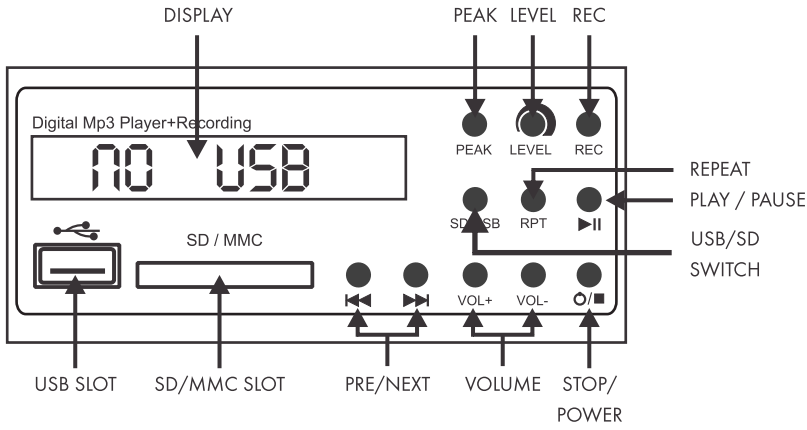
⏮ PREV: Press to go to previous track.

⏭ NEXT: Press to go to next track.

- Line/USB Level Fader: This fader controls the output level.



7. *USB Recorder Usage* (Available only in the D12.2UR model)



Please ensure that a memory storage device (Pen Drive / SD Card) with mp3 music files is inserted in the USB slot or SD /MMC slot.

- POWER ON/OFF:
  - Press and hold the POWER button for about 3 seconds until the display lights up to power up the USB recorder.
  - After the recorder has powered up it starts to scan the connected media devices. Along side is the display on the screen

  - Pressing the POWER again for about 3 seconds until the display lights go out to power off the USB recorder.

- PLAYBACK INSTRUCTIONS:
  - When the unit is powered up, the device starts music playback from device connected in either the USB slot or SD/MMC slot.
  - If there is no device connected during powering up; its starts automatic playback from the next device connected.
  - If the device is in either pause or stop status, please press the play to continue playback.

- USB/SD Switch:
  Press this switch if you intent to switch play back between the USB and SD/MMC device. Please note after this switch is pressed it may take some time for the device to scan to the storage device.

- PLAY / PAUSE:
  This switch can be used to either pause a track during playback or to play track when it is either paused or stopped.

- STOP / POWER:
  This switch is used to stop music playback. Please note that this switch is also used to power the USB section ON or OFF.

- PRE / NEXT:
  This switch is used to toggle between tracks in a folder. Pressing either one the switch for about 2 seconds lets you browse between the folders in the memory device. Please note if the folder name “Fr E” is the default recording folder. This is helpful to play back previous recording from the 12.2UR.

- VOLUME CONTROL:

  These switches are used to either increase or decrease the playback volume playback from either of the USB devices. VOL+ is used to increase the volume and VOL- is used to decrease the volume. The factory default volume is 10.

- REPEAT MODES:

  This switch is used to switch between the 4 following repeats modes.

  * REP 1: Repeats a single track.
  * REPALL: Repeats all tracks.
  * REP: Randomizes track playback sequence.
  * No picture displayed: Tracks are played in sequence. It by passes the repeat modes.

- RECORDING OPERATION:

  Please connect a storage device in either the USB slot or the SD/MMC slot and press the REC button.

  - Press the USB/SD button to select your option.
  - Turn the REC LEVEL trim pot to change the set the recording level as per your requirement.
  - When you are ready to record press REC button again, the "REC" lights about 3-4 times and then it begins to record. Alongside is the interface during the recording process.

  - During the recording process, avoid pressing any of the switches to avoid interference in your recordings.
  - To stop the recording, press the STOP switch.

Please Note: Following are some important technical aspects of the mp3 recording & playback module featured in the Diamond Club 12.2UR.

1. USB HOST:
   - Built-in full speed (12 Mbps) USB HOST control function.
   - Supports USB mass storage class.
   - Does not support externally-added HUBs / splitters.

2. SD CARD:
   - Supports SPI mode.
   - Supports MMC and mini-SD cards (with mini-SD to SD adapter).
   - Supports SD ver1.01 (file system).

3. FAT ANALYSIS:
   - Supports FAT 16 and FAT 32.
   - Supports VFAT (long file name).
   - Supports multi-partition up to 1.
   - The searchable folder hierarchy is of 8 layers containing the root folder.

3. AUDIO DSP:
   - Support MPEG1 Layer1/ Layer2 / Layer3 decoding
   - Support MPEG2/2.5 Layer 3 decoding
   - Support MP3 encoding
   - Sampling Rate 44.1KHz Bite Rate: 128kbps.
   - Max Capacity 32 GB.

Terms of Use: Studiomaster Professional respects intellectual property rights, and we request our users to do the same. Please use mp3 files only for programs which you have legally purchased.

PLEASE DO NOT USE PIRATED MUSIC OR CONTENT.

8. Technical Specifications

Maximum Gain	
Mic Input	60dB
Line Input	40dB
Mic to L/R Output	76dB
Line to L/R Output	56dB
Total Harmonic Distortion (T.H.D.)	Better than 0.8%
T.E.I.N.	
Mic Input (150Ω Source)	-128.5dBm (DIN AUDIO)
Line Input (150Ω Source)	-98.5dBm (DIN AUDIO)
Signal/Noise Ratio	
Output Level : 0dBm (0.775V)	76dB
Nominal Output Noise	-80dB
Clip Indication	4dB prior to true clip.
Equalisation	
Treble	±16dB @ 10kHz
Mid	±16dB @ 2.5kHz
Bass	±16dB @ 100Hz
Aux Return	
Gain	30dB
Attenuation	60dB
Aux Sends	
Nominal Level	0dBm
Tape In/Out	
Nominal Record Output Level	-10dBu
Nominal Playback Input Level	-10dBu
Left/Right Outputs	
Nominal Level	0dBm
Maximum Level (1kHz/600Ω Load)	+17dBm (5.5V RMS)
Frequency Response	25Hz to 19kHz (+0/-1dB)
Impedances	
Mic Input	Typically 5KΩ
Line Input	20KΩ (Balanced) / 10KΩ (Unbalanced)
L/R Outputs	Less than 50Ω
Aux Send Outputs	Less than 50Ω
Aux Returns Inputs	Typically 510KΩ
Tape Record Outputs	Less than 2kΩ
Tape Record Inputs	Greater than 20kΩ

Model	AC Mains	Fuses	Dimensions (L x W x H in mm)	Weight (Gross)
DC 6.2	150V-250V~/50Hz	T 500mA/250V	335 x 376 x 89	6.0 Kg
DC 8.2		T 500mA/250V	395 x 376 x 89	8.5 Kg
DC 8.2EFX		T 500mA/250V	435 x 376 x 89	7.0 Kg
DC 12.2		T1A/250V	515 x 376 x 89	9.0 Kg
DC 12.2EFX		T1A/250V	555 x 376 x 89	8.5 Kg
DC 12.2U		T1A/250V	555 x 376 x 89	10.0 Kg
DC 12.2UR		T1A/250V	555 x 376 x 89	9.0 Kg
DC 16.2		T2A/250V	635 x 376 x 89	11.0 Kg
DC 16.2EFX		T2A/250V	675 x 376 x 89	11.0 Kg

9. *Product Care Instructions*

- Do not drop the mixer; this could severely damage the products.
- Please keep this product away from direct sunshine & rain.
- Please keep this product away from heavy magnetic or electromagnetic fields, it could affect product performance.
- Please disconnect from power supply when the products is not being used for a long time.
- Do not open any of the components yourself, for repairs please get in touch with your retailer.
- Please read the owner manual before using this product.
- Please place product in flight case while transportation.

* Design and specification are subject to change without notice

Range of Studiomaster Professional Products.

Wired Microphones

SM 100XLR
TRIO 100
SM 200XLR
SM 300I
SM 400XLR
SM 500XLR
SM 600XLR
SM 650XLR
SM 800C
SM 900C
SBM 10
Flex 2
Flex 4

Wireless Microphones

BR 11 Series
BR 12 Series
BR 21 Series
BR 28 Series
BR 48 Series
ER 11 Series
ER 31 Series
ER 58 Series
KR 12 Series
GR 12 Series
MR 12 Series

Crossovers

SX-2
SX-321
SX-421
SX-521

Processors

DD 1000
SEQ 152
Multi 3
SFX 8
SPS 8
Phantom 11

Mixers

~ Basic Series
Basic CUB
Basic CUBU
Basic 14EFX
~ Air Series
AiR 2
AiR 4
AiR 6
AiR 8
AiR 12
AiR 16
AiR 24
AiR X 10
AiR X 14
AiR X 18
Aura 14

Mixers

~ Diamond Club Series
Diamond Club 6.2
Diamond Club 8.2
Diamond Club 8.2EFX
Diamond Club 12.2
Diamond Club 12.2EFX
Diamond Club 12.2USB
Diamond Club 12.2UR
Diamond Club 16.2
Diamond Club 16.2EFX
~ Diamond Supreme Series
Diamond Supreme 7
Diamond Supreme 12
Diamond Supreme 12U
Diamond Supreme 16U

~ Club 2000 Series
C 142
C 182
C 102EFX
C 142EFX

~ Platinum Series
Platinum Basic MKI
Platinum MKIII

~ Pro III Series
Pro 12.3
Pro 16.3
~ Pro VI Series
Pro 16.6
Pro 24.6
EP 7

~ DJ Mixers
DJX 300MKI
Playmix 300
DJX 626
DJX 825
DJX 925
DJX 975
DMX 5
CD/USB Media Player
MP 4000
MP 2000

Amplifiers

~ LPA Series
LPA 600
LPA 1000
~ DJA Series
DJA 100
DJA 550
DJA 1000
DJA 2500
DJA 4000

Amplifiers

~ PA Series
PA 1.5
PA 2.0
PA 3.0
PA 4.5
PA 6.0

~ PAT Series
PAT 1.5

~ DPA Series
DPA 2000
DPA 3200
DPA 4500
DPA 5000
Road 7
~ Arena Series
Arena 20
Arena 30

~ Industrial Amplifier
SM 9612

~ SL 9000 Series
SL 9240

Component Speakers

~ S-Series
SWF 18120
SWF 18100
SWF 1880
SWF 1560
SMB 1545
SMB 1530
SMB 1230
SHF 0104
SHF 0210
~ E-Series
EMB 1225
EMB 1530
~ Titan Series
THF 0208
TMB 1535
TMB 1555
TWF 1580

Passive Speakers

~ S-Series
S5215
S5225
S8018
S8118
S8028
~ Fire Series
Fire 55
Fire 84

~ DYS Series
DYS-208
DYS-12M

Passive Speakers

~ XVP Series
XVP1540
XVP1540M
XVP 1560
XVP 2585
XVP 25A2
XVP 1808
~ Aria Series
Aria 8
Aria 12

Line Array System

SLA-40
SLA-40 Kit

Powered Speakers

~ B Series
B 200
B 400 (Black & White)
B 400U
B 400UB
~ OP Series
O 215
O 415
O 415U
~ SUB Series
O 12SUB
O 15SUB
O 18SUB

Active Monitors

Sät 5
Sät 10S

Sound Box

SPA 25FX
SPA 80FX

Stabilizers

SVC - S1000
SVC - S2000
SVC - S3000
SVC - S5000
SVC - S8000
SVC - S10000

Speaker Stands

SS 10B
SS 20S
WS 10

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