

**SONY®**

**Professional  
Audio  
Catalog  
1999-2000**



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# SECTION 1

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## DAT Recorders

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◆ *DAT Recorders**2-Channel Digital Audio Recorder***PCM-7040**

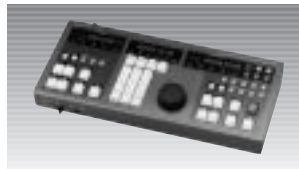
- Start ID level sync function
- Internal clock for time data
- Eject control via 37-pin parallel remote
- Key reassignment for ease of use
- ISR support
- Sophisticated electronic editing capability
- SMPTE/EBU time code recording/reading
- Memory start for instant-start playback
- Synchronized operation with video/audio equipment
- Time code chase synchronization
- 4-head construction for RAW (Read-After-Write) and RMW (Read-Modify-Write)
- Search/location capability
- Variable speed playback in a range of  $\pm 12.5\%$
- Controlled from Sony video editor BVE-9100/2000
- 19-inch rack mountable with optional rack mount rail/adaptor RMM-30/31 (The RMM-30/31 requires the rack to be at least 26-inch in depth)

***Supplied Accessories***

- AC power cord (x 1)
- Operation manual (x 1)



PCM-7040 Rear Panel

*Dual Remote Controller***RM-D7200\***

- Provides remote control of two recorder transports

*Remote Controller***RM-D7100**

- Provides remote control of recorder transport functions of PCM-7040/7010 via 37-pin parallel interface

\* Not available in some areas.

## Specifications

### Tape Format/Performance

Recording System:	Rotary-head DAT recording
Tape Speed:	8.15 mm/s
Recording Time:	124 min (w/Sony PDP-125C)
Scanner Rotation Speed:	2000 rpm (standard recording/playback)
Track Pitch:	13.6 $\mu$ m
Head System:	Helical scanning rotary 4-head system
Variable Speed Range:	$\pm$ 12.5% (playback)
FF and REW Time:	Max. 60 s (with Sony PDP-124)
Shuttle Speed:	$x\pm 1/5$ , $x\pm 1/2$ , $x\pm 1$ , $x\pm 3$ , $x\pm 8$ or $x\pm 16$ normal speed
Jog Speed:	$x\pm 0$ to $x\pm 1$ , $x\pm 3$ normal speed

### Digital Audio Signal

Number of Channels:	2 channels
Sampling Frequency:	48 kHz, 44.1 kHz
Quantization:	16-bit linear
Error Correction:	Double-encoded RSC (Read Solomon Code)
Modulation:	8 to 10 modulation
Frequency Response:	20 Hz to 20 kHz $\pm$ 0.5 dB
S/N Ratio:	More than 90 dB
T.H.D.:	Less than 0.05% at reference level
Wow and Flutter:	Below measurable limit
Crosstalk:	Less than -80 dB (20 Hz to 20 kHz)
Emphasis:	50 $\mu$ s/15 $\mu$ s, ON/OFF switchable
Phase Difference between Channels:	Within 10° (20 kHz)
Delay Time:	Approx. 135 ms (RAW mode)

### Inputs/Outputs

Analog Inputs:	+4 dBu (+24 dBu max.), 10 k or 600 $\Omega$ , balanced, XLR-3-31 type (x 2)
Analog Outputs:	+4 dBu (+24 dBu max.), less than 50 $\Omega$ , balanced, XLR-3-32 type (x 2)
Digital Inputs:	AES/EBU (with transformer), 110 $\Omega$ , XLR-3-31 type
Digital Outputs:	AES/EBU (with transformer), 20 $\Omega$ , XLR-3-32 type
Time Code Inputs:	IEC461 (SMPTE/EBU), 0.5 to 10 Vp-p (10 k $\Omega$ ), XLR-3-31 type
Time Code Outputs:	IEC461 (SMPTE/EBU), 2.4 Vp-p, XLR-3-32 type
Word Sync Inputs:	TTL compatible, 75 $\Omega$ , unbalanced, BNC type
Word Sync Outputs:	TTL compatible, low impedance, unbalanced, BNC type
Video Sync Inputs:	NTSC/PAL/SECAM or 50 Hz 60 Hz square wave, 0.3 to 4 Vp-p, 75 $\Omega$ , unbalanced, BNC type
Parallel Remote:	TTL compatible, D-sub 37-pin, TTL compatible, DIN 8-pin
Serial Remote:	RS-422, D-sub 9-pin
Computer I/F:	RS-232C, D-sub 25-pin
Monitor Outputs:	-10 dBu, at less than 150 $\Omega$ , RCA pin jack (x 2)
Headphone Outputs:	-26 dBu at reference level (8 $\Omega$ load), stereo phone jack

### General

Dimensions:	424 (W) x 132 (H) x 360 (D) mm 16 <sup>3</sup> / <sub>4</sub> x 5 <sup>1</sup> / <sub>4</sub> x 14 <sup>1</sup> / <sub>4</sub> inches
Mass:	10 kg (21 lb 1 oz)
Power Requirements:	AC 120 V $\pm$ 10%, 60 Hz AC 230 V +6/-10%, 50/60 Hz
Power Consumption:	38 W at AC 120 V 0.3 A at AC 230 V

\* 0 dBu = 0.775 V

## Optional Accessories

### RMM-30

19-inch Rack Mount Rail

### RMM-31

19-inch Rack Mount Adaptor

### ECD-3C/10C

Digital Audio Cable

- Length: 3 m, 10 m or 30 m
- Format: AES/EBU
- Connectors: XLR-3-31 type  $\leftrightarrow$  XLR-3-32 type

## DAT Tapes

### PDP-15C/35C/50C/65C/95C/125C

Digital Audio Tape

### DT-60RA/90RA/120RA

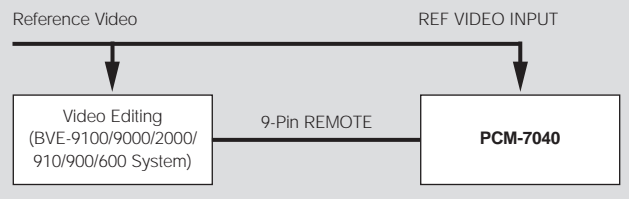
Digital Audio Tape

### DT-10CLD

Cleaning Tape

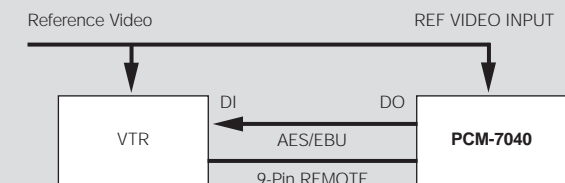
## System Configuration

### Editing System with Video Editing Controller

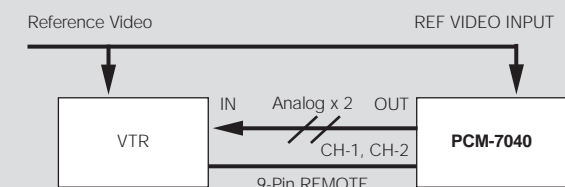


### Editing System with VTR

Example 1: Connection to a VTR which has AES/EBU digital audio In/Out



Example 2: Connection to a VTR which has analog audio In/Out



◆ *DAT Recorders**2-Channel Digital Audio Recorder***PCM-R700/R500**

PCM-R700



PCM-R500

- High-reliability 4 D.D. mechanical transport mechanism with 4 direct drive motors for a stable tape run
- Equipped with auto head cleaning for improved sound quality
- 4-head construction for confidence monitoring (PCM-R700)
- Easy system operation with Shuttle and Jog dial
  - Shuttle for easy fast forward/rewind and half speed search
  - Jog dial for convenient AMS/program number
- Setup menu for preference section - set ID6, level sync threshold, date, etc
- SBM recording function achieving an S/N ratio equivalent to that of a 20-bit system
- Built-in DIN 8-pin parallel remote connector and supplied wireless remote commander (RM-D757)
- R-core transformer for reduced leakage flux
- Independent Channel 1/ Channel 2 recording level volume controls for eliminating crosstalk
- Wide range of audio interface options

***Supplied Accessories***

Wireless remote commander RM-D757 (x 1)

AC power cord (x 1)

Screws (M5 x 12) (x 4)

Decorative washers (x 4)

Operation manual (x 1)



PCM-R700 Rear Panel



PCM-R500 Rear Panel

## Specifications

### Digital Audio Signal Format

System:	Rotary head DAT recording
Tape:	Digital audio tape
Modulation:	8 to 10 Modulation
Digital Audio Channel:	2 channels, stereo
Sampling Frequency:	48 kHz, 44.1 kHz, 32 kHz
Quantization:	Standard: 16-bit linear
Long-play:	12-bit non-linear
Error Correction:	Double-encoded Reed Solomon Code
Drum Rotation:	Standard: 2,000 rpm Long-play: 1,000 rpm

### Inputs/Outputs

Analog IN (Balanced):	XLR-3, Female Reference level: +4 dBu to -12 dBu
Analog IN (Unbalanced):	RCA Phono, -12 dBu
Analog OUT (Balanced):	XLR-3, Male Reference level: +4 dBu to -12 dBu
Analog OUT (Unbalanced):	RCA Phono, -12 dBu
Digital IN (AES/EBU):	XLR-3, Female
Digital OUT (AES/EBU):	XLR-3, Male
Digital IN (Coaxial):	RCA Phono
Digital OUT (Coaxial):	RCA Phono

### Remote Interface

REMOTE (8-pin):	DIN connector (Parallel)
Optional Remote Commander IN:	Mini plug (Serial)

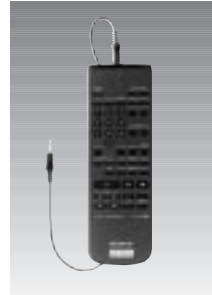
### General

Power Requirements:	AC 120 V, 60 Hz (U.S.A. and Canada) AC 220 to 230 V, 50/60 Hz (Europe)
Power Consumption:	34 W
Dimensions:	482 (W) x 145 (H) x 355 (D) mm (19 x 5 <sup>3</sup> / <sub>4</sub> x 13 <sup>7</sup> / <sub>8</sub> inches)
Mass:	(R500) 7.2 kg (15 lb 14 oz) (R700) 7.3 kg (16 lb 2 oz)

## Optional Accessory

### RM-D750

Remote Controller





◆ *DAT Recorders**2-Channel Digital Audio Recorder***PCM-R300**

- SBM recording function achieving an S/N ratio equivalent to that of a 20-bit system
- Start ID, End ID, Skip ID, control on the front panel
- Setup menu for preference section - set ID6 (SCMS), level sync threshold
- Error rate display selectable in display mode
- Coaxial and optical digital interface
- A/D and D/A monitoring modes
- Recording and playback in long play mode
- Supplied rack mount adaptor for rack mounting

**Supplied Accessories**

- Wireless remote commander RM-D757 (x 1)
- AC power cord (x 1)
- Screws (M5 x 12) (x 4)
- Decorative washers (x 4)
- Operation manual (x 1)
- Rack mount adaptors (x 2)



PCM-R300 Rear Panel

**Specifications****Digital Audio Signal Format**

System:	Rotary head DAT recording
Tape:	Digital audio tape
Modulation:	8 to 10 Modulation
Digital Audio Channel:	2 channels, stereo
Sampling Frequency:	48 kHz, 44.1 kHz, 32 kHz
Quantization:	Standard: 16-bit linear Long-play: 12-bit non-linear
Error Correction:	Double-encoded Reed Solomon Code
Drum Rotation:	Standard: 2,000 rpm Long-play: 1,000 rpm

**Inputs/Outputs**

Analog I/O (Unbalanced):	RCA Phono, -12 dBu
Digital I/O:	Optical jack Coaxial (RCA Phono)

**General**

Power Requirements:	AC 120 V, 60 Hz (U.S.A. and Canada) AC 220 to 230 V, 50/60 Hz (Europe)
Power Consumption:	30 W
Dimensions:	432 (W) x 122 (H) x 325 (D) mm (17 1/8 x 4 7/8 x 12 7/8 inches)
Mass:	5.0 kg (11 lb)

## 2-Channel Digital Audio Recorder

**DTC-A8**

- SBM recording function achieving an S/N ratio equivalent to that of a 20-bit system
- High-reliability 4 D.D. mechanical transport mechanism with 4 direct drive motors for a stable tape run
- Support all major sampling frequencies - analog and digital input recording at 32 kHz (LP mode), 44.1 kHz and 48 kHz
- Coaxial and optical digital interface
- A/D and D/A monitoring modes
- Recording and playback in long play mode
- Remote foot switch control
- Supplied rack mount adaptor for rack mounting

**Supplied Accessories**

- Wireless remote commander RM-D70 (x 1)
- AC power cord (x 1)
- Screws (M5 x 12) (x 4)
- Decorative washers (x 4)
- Operation manual (x 1)
- Rack mount adaptors (x 2)
- Sealing panel (x 1)



DTC-A8 Rear Panel

**Specifications****Digital Audio Signal Format**

System:	Rotary head DAT recording
Tape:	Digital audio tape
Modulation:	8 to 10 Modulation
Digital Audio Channel:	2 channels, stereo
Sampling Frequency:	48 kHz, 44.1 kHz, 32 kHz
Quantization:	Standard: 16-bit linear Long-play: 12-bit non-linear
Error Correction:	Double-encoded Reed Solomon Code
Drum Rotation:	Standard: 2,000 rpm Long-play: 1,000 rpm

**Inputs/Outputs**

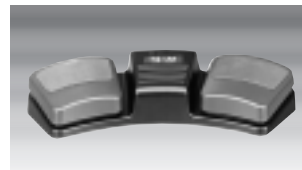
Analog I/O (Unbalanced):	RCA Phono, -4 dBu RCA Phone, -4 dBu
Digital I/O:	Optical jack Coaxial (Pin-jack)

**General**

Power Requirements:	AC 120 V, 60 Hz (U.S.A. and Canada) AC 220 to 230 V, 50/60 Hz (Europe)
Power Consumption:	30 W
Dimensions:	430 (W) x 125 (H) x 350 (D) mm (17 x 5 x 13 7/8 inches)
Mass:	6.0 kg (13 lb 4 oz)

**Optional Accessory****FS-A8**

Foot Switch



◆ *DAT Recorders**2-Channel Digital Audio Recorder***TCD-D10 PRO II**

- Portable DAT Recorder
- Easy-to-read LCD multi-function display
- Absolute time recording
- Balanced, switchable MIC/LINE inputs
- Built-in hours meter, microphone low-cut filter and microphone attenuator/limiter
- AES/EBU type digital I/O
- High-speed search using the ID recorded in subcode area
- Built-in speaker
- AC/DC operation — AC 100 to 240 V with ACP-88 AC adaptor; DC 6 V with NP-22H rechargeable battery pack

**Supplied Accessories**

- Carrying case (x 1)
- Shoulder belt (x 1)
- NP-22H rechargeable battery pack (x 2)
- ACP-88 AC power adaptor (x 1)
- BC-D10 charging adaptor (x 1)
- Digital I/O connecting cable (x 1)
- SAD-44 (PF<sup>1</sup>/<sub>2</sub>-inch ↔ W<sup>3</sup>/<sub>8</sub>-inch) microphone stand screw adaptor (x 1)
- SAD-45 (PF<sup>1</sup>/<sub>2</sub>-inch ↔ NS<sup>5</sup>/<sub>8</sub>-inch) microphone stand screw adaptor (x 1)

**Specifications****Tape format**

Recording System:	Rotary-head DAT Recording
Tape Speed:	8.15 mm/s
Recording Time:	120 min (w/DT-120R)
FF and REW time:	Less than 60 s (w/DT-120R)
Cueing speed:	x 3, x 8 normal speed

**Digital Audio Signal**

Number of Channel:	2 (stereo)
Sampling Frequency:	
Playback:	48 kHz/44.1 kHz/32 kHz
Recording (Analog IN):	48 kHz
Recording (Digital IN):	48 kHz/44.1 kHz/32 kHz
Quantization:	16-bit linear
Error Correction:	Double-encoded RSC
Signal to Noise Ratio:	More than 85 dB
Frequency Response:	20 to 20,000 Hz ±1.0 dB (48 kHz)
Total Harmonic Distortion:	Less than 0.06%
Wow and Flutter:	Below measurable limit
Channel Separation:	More than 80 dB at 1 kHz

**Inputs/Outputs**

Analogue Inputs:	XLR-3-31 type (x 2) MIC: -60 dBu (-40 dBu with attenuator on), 10 k $\Omega$ , balanced LINE: +4 dBu, 47 k $\Omega$ , balanced
Analogue Outputs:	LINE (phone x 2): -10 dBu, 700 $\Omega$ , balanced
Headphone Output:	20 mW + 20 mW, 32 $\Omega$ load, stereo phone
Digital Input:	Balanced (12-pin), AES/EBU type
Digital Output:	Balanced (12-pin), AES/EBU type

**General**

Power Requirements:	DC 6 V with NP-22H, AC 100 to 240 V with ACP-88
Battery Life:	Approx. 2 hours with NP-22H
Dimensions (W x H x D):	253 x 55 x 191 mm (10 x 2 1/4 x 7 5/8 inches)
Mass:	2.0 kg (4 lb 7 oz) with NP-22H

**Optional Accessory****NP-4000**

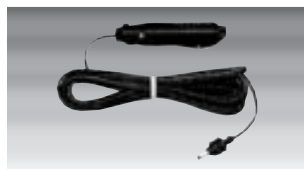
Rechargeable Battery Pack

**DCP-80**

Voltage Stabilizer for NP-4000

**DCC-16A/AE/AW**

Car Battery Cord

**NPA-D10**

Battery Adaptor



- Holds 12 AA-size batteries for 1 hour of continuous operation

**DAT Tapes****DT-60RA/90RA/120RA**

Digital Audio Tape

**DT-10CLD**

Cleaning Tape

# SECTION 2

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## Multi-Channel Recorders

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## ◆ Multi-Channel Recorders



48-Channel Digital Audio Recorder

**PCM-3348HR**

- 24-bit high resolution recording (24-bit/16-bit switchable)
- 1/2-inch DASH PLUS recorder with 48 digital audio tracks, 2 cue tracks and one track each for CTL and time code signals
- Compatible with PCM-3348/3324S/3324A/3324 in recording and playback in 16-bit mode
- Vocal selector function
- Up to 80 seconds of 24-bit resolution stereo digital audio data can be stored in sound memory and re-recorded back onto tape at any position
- Wide interfacing - balanced analog multi I/O and four types of digital I/O with 24-bit resolution (48-ch MADI, 48-ch balanced SDIF-2, 8-ch AES/EBU and 2-ch unbalanced SDIF-2)
- Equipped with Sony 9-pin serial remote interface
- Comprehensive microprocessor-controlled servo system, unique design and excellent mechanics for fast and stable transport
- Built-in time code generator/reader capable of handling SMPTE drop frame/non-drop frame, EBU and film time codes
- 48 kHz, 47.952 kHz, 44.1 kHz or 44.056 kHz sampling frequency selectable
- Real-time digital ping pong

**Supplied Accessories**

RM-3348HR with stand (x 1)  
 2-ch unbalanced SDIF-2 board (x 1)  
 RH-10DA 10-inch empty reel (x 1)  
 AC power cord for PCM-3348HR (x 1)  
 AC power cord for RM-3348HR (x 1)  
 Remote cable (10 m, x 1)  
 Extension board (x 1)    Operation manual (x 1)  
 Installation manual (x 1)    Quick reference (x 1)  
 Analog I/O 27-pin multi-channel connector plug  
 (NK-27-32 SL type x 6, NK-27-31 SL type x 6)  
 Remote interface connector (x 8)  
 CL-1/2-12 tape cleaner (x 1 box)

Remote Control Unit for PCM-3348HR (Supplied)

**RM-3348HR**

- Provides control over all the functions of PCM-3348HR including the digital copy, vocal selector and sound memory functions, variable speed control, memory back up for three days, repro mute, synchronized operation of two or three PCM-3348HR, PCM-3348 or PCM-3324S/3324A/3324 machines
- Dimensions:  
 Main unit: 490 (W) x 220 (H) x 487 (D) mm  
 (19 3/8 x 8 3/4 x 19 1/4 inches)  
 Stand: 526 (W) x 600 to 750 (H) x 536 (D) mm  
 (20 3/4 x 23 5/8 to 29 5/8 x 21 1/8 inches)
- Mass:  
 Main unit: 13.5 kg (29 lb 12 oz)  
 Stand: 14.5 kg (31 lb 15 oz)
- Power requirements: AC 100 to 240 V, 50/60 Hz
- Current consumption: 0.7 A

**Optional Accessories****DABK-3343HR**

Converter Board Pack

- Consisting of 12 DAD boards with each having a 4-ch processing capability
- Performs 20-bit A/D D/A conversion ensuring high sound quality of analog input and output signals

**Specifications**

Dimensions: 340 (W) x 31 (H) x 272 (D) mm each  
 (13 1/2 x 1 1/4 x 10 3/4 inches)  
 Mass: 830 g (1 lb 13 oz) each  
 Supplied Accessory: Installation manual

**DMU-3048**

Digital Meter Unit

**RH-14DA**

Empty Reel (14-inch)

**D-1/2-1460**Digital Audio Tape  
(10-inch, 30 min at 44.1 kHz)**CL-1/2-12**

Tape Cleaner

**D-1/2-2920**Digital Audio Tape  
(14-inch, 60 min at 44.1 kHz)



## 48-Channel Digital Audio Recorder

**PCM-3348\***

- 1/2-inch DASH recorder with 48 digital audio tracks, 2 cue tracks and one track each for CTL and time code signals
- Compatible with PCM-3324S/3324A/3324 in recording and playback of digital audio tracks 1 through 24
- Wide interfacing — balanced analog multi I/O and three types of digital I/O (AES/EBU, SDIF-2 balanced/unbalanced)
- Comprehensive microprocessor-controlled servo system, unique design and excellent mechanics for fast and stable transport
- Built-in time code generator/reader capable of handling SMPTE drop frame/non-drop frame, EBU and film time codes
- 48 kHz, 47.952 kHz, 44.1 kHz or 44.056 kHz sampling frequency selectable
- Advanced digital/analog output function enables pre-delay adjustment in 1-sample steps to compensate for signal processing delay in external equipment
- Approx. 20 seconds of digital audio data can be stored in sound memory and re-recorded back onto tape at any position
- Real-time digital ping pong

**Supplied Accessories**

- AC power cable (x 2)
- Remote cable (10 m, x 1)
- RH-10DA empty reel (10 inches, x 1)
- Multi-connector plug (27-pin male, x 6)
- Multi-connector plug (27-pin female, x 6)
- RM-3348 remote control unit with stand (x 1)
- Extension board (x 1)
- Operation manual (x 1)
- Maintenance manual (x 1)
- CL-1/2-12 tape cleaner (x 1 box)

\*Not available in some areas.

## Remote Control Unit for PCM-3348 (Supplied)

**RM-3348\***

- Provides control over all functions of PCM-3348 including variable speed control, digital ping pong, sound memory, memory back up for three days, repro mute, synchronized operation of two or three PCM-3348 or PCM-3324S/3324A/3324 machines
- Dimensions: 526 (W) x 1068 (H) x 536 (D) mm  
(20 3/4 x 42 1/8 x 21 1/8 inches) w/stand
- Mass: 28 kg (61 lb 12 oz) w/stand
- Power requirements: AC 100 to 240 V, 50/60 Hz
- Current consumption: 0.7 A

\*Not available in some areas.

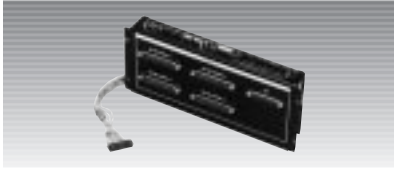


## Optional Accessories

### DABK-3340

Remote Interface Board for PCM-3348

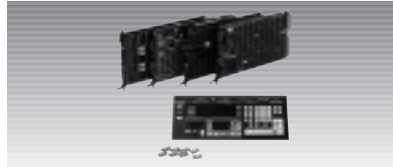
- Interfaces PCM-3348 directly with a mixing console through SRIF-4



### DABK-3341

Upgrade Kit for PCM-3348

- Stereo sound memory
- 2 modes of time code chase synchronization — Re-chase and Free run modes
- Up to 48 channels of digital ping pong
- Roll back function
- Fs shift mode



### DABK-3342

MADI Interface Board for PCM-3348

- Digital I/O to MADI standard
- Single co-axial cable connection for all 48 channels

### DABK-3343

AD/DA Converter Board

- Dimensions:
  - 495 (W) x 27 (H) x 272 (D) mm
  - (19 1/2 x 1 1/8 x 10 3/4 inches)
- Mass: 1.3 kg (2 lb 14 oz) each

### DMU-3048

Digital Meter Unit for PCM-3348

- Dimensions:
  - 700 (W) x 152 (H) x 200 (D) mm
  - (27 3/4 x 6 x 7 7/8 inches)
- Mass: 10 kg (22 lb 1 oz) w/o cable
- Power requirements: AC 100 to 240 V, 50/60 Hz
- Current consumption: 1.2 A



### ECD-3C/10C

Digital Audio Cable (3 m, 10 m or 30 m)



### D-1/2-1460

Digital Master Tape (10-inch, 30 min at 44.1 kHz)

### D-1/2-2920

Digital Master Tape (14-inch, 60 min at 44.1 kHz)

### RH-14DA

Empty Reel for D-1/2-2920

### RH-10DA

Empty Reel for D-1/2-1460



## Specifications

PCM-3348HR		
<b>Format/Performance</b>	Recording Format	DASH PLUS/DASH-F Double Density
	Number of Tracks	48 digital audio tracks, CTL track, TC track and 2 cue tracks
	Tape Speed	16 bit: 76.20 cm/s, 24 bit: 114.30 cm/s (Fs = 48 kHz) 16 bit: 70.01 cm/s, 24 bit: 105.01 cm/s (Fs = 44.1 kHz) 16 bit: 69.94 cm/s, 24 bit: 104.91 cm/s (Fs = 44.056 kHz)
	Recording Time	24 bit: 40 min with 14-inch reel (Fs = 48 kHz) 24 bit: 44 min with 14-inch reel (Fs = 44.1 or 44.056 kHz)
	FF and REW Time	4 min 20 s with 14-inch reel 2 min 25 s with 10-inch reel
	Variable Speed Range	±12.5%
	<b>Digital Audio Signal</b>	Sampling Frequency
Quantization		24-bit/16-bit linear switchable
Dynamic Range		105 dB TYP (at 1 kHz, emphasis OFF)
Frequency Response		20 Hz to 21.7 kHz within +0.5/-1 dB (Fs = 48 kHz)
Total Harmonic Distortion		0.009% TYP (20 Hz to 20 kHz, at reference level)
Wow and Flutter		Below measurable limit
Crosstalk between Channels		105 dB TYP (20 Hz to 20 kHz, at reference level)
Editing Resolution		1 sector (1.00 ms at Fs = 48 kHz, 1.088 ms at Fs = 44.1 kHz, 1.09 ms at Fs = 44.056 kHz)
Crossfade Time		
Fs (kHz)		48            44.1            44.056
Electronic Editing (min.)		1.4 ms,       1.5 ms,       1.5 ms
(max.)		341.3 ms,    371.5 ms,    371.9 ms
Splice Editing		5.2 ms,       5.6 ms,       5.6 ms
Emphasis	50 µs/15 µs, ON/OFF selectable for each channel	
<b>Inputs/Outputs</b>	Analog Inputs	
	Digital Audio IN	48-channel +4 dBu (+24 dBu max.), more than 10 kΩ, balanced, NK-27-31S (x 6)
	Analog Audio IN	2-channel +4 dBu (+19 dBu max.), 10 kΩ balanced, XLR-3-31 type (x 2)
	Analog Outputs	
	Digital Audio OUT	48-channel +4 dBu (+24 dBu max.), less than 100 Ω, balanced, NK-27-32S (x 6)
	Analog Audio OUT	2-channel +4 dBu (+19 dBu max.), less than 100 Ω load, balanced, XLR-3-32 type (x 2)
	Digital Inputs	
	AES/EBU IN	8-channel, XLR-3-31 type (x 4)
	SDIF-2 balanced IN	48-channel, RS-422A, D-sub 50P (x 2)
	SDIF-2 unbalanced IN	2-channel, TTL compatible, 75 Ω, BNC (x 2)
	MADI IN	48-channel, MADI unbalanced, ECL, 75 Ω, BNC (x 1)
	Digital Outputs	
	AES/EBU OUT	8-channel, XLR-3-32 type (x 4)
SDIF-2 balanced OUT	48-channel, RS-422, D-sub 50S (x 2)	
SDIF-2 unbalanced OUT	2-channel, TTL compatible, 75 Ω, BNC (x 2)	
MADI OUT	48-channel, MADI unbalanced, ECL, 75 Ω, BNC (x 1)	
Other Inputs		
WORD SYNC IN	TTL compatible, 75 Ω, unbalanced, with loop through, BNC (x 2)	
SECTOR SYNC IN	TTL compatible, 75 Ω, unbalanced, BNC (x 1)	
REFERENCE VIDEO	75 Ω, unbalanced, with loop through, BNC (x 2)	
REMOTE-1 IN	Black burst: 0.3 Vp-p, Composite sync: 4 Vp-p, Square wave: 0.3 to 5 Vp-p SRIF-1 format, D-sub 37P (female x 1)	
EXT. PHASE CONTROL INREMOTE-1 IN	±10 V, 10 kΩ, balanced, XLR-3-31 type (x 1)	
EXT. PHASE CONTROL INREMOTE-2 IN	±10 V, 10 kΩ, balanced, XLR-3-31 type (x 1)	
REMOTE-2 IN	Sony 9-pin, RS-422A, D-sub 9P (female x 1)	
REMOTE-3 IN	SRIF-3 format, RS-422A, D-sub 50P (female x 1)	
EXT. TRIGGER IN	Sound memory control, XLR-3-31 type (x 1)	
REMOTE-4 IN	SRIF-4 format, AUX: D-sub 25P (male x 1), REC RDY CONTROL: D-sub 50P (male x 4)	
TIME CODE IN	0.5 to 10 Vp-p, more than 10 kΩ, balanced, XLR-3-31 type (x 1)	
SECTOR ADDRESS IN	TTL level, 75 Ω, unbalanced, BNC (x 1)	
Other Outputs		
WORD SYNC OUT	TTL compatible, 75 Ω, unbalanced, BNC (x 2)	
SECTOR SYNC OUT	TTL compatible, 75 Ω, unbalanced, BNC (x 1)	
SECTOR ADDRESS OUT	TTL level, 75 Ω, unbalanced, BNC (x 1)	
TIME CODE OUT	2.4 Vp-p ±0.1 V, variable within 1.8 to 3.4 V, less than 100 Ω, balanced, XLR-3-32 type (x 1)	
<b>General</b>	Power Requirements	AC 120 V, 60 Hz (U.S.A. and Canada) AC 220 to 240 V, 50/60 Hz (Europe) AC 100 V, 50/60 Hz (Japan)
	Power Consumption	1.2 kW (U.S.A., Canada and Japan) 7 A (Europe)
	Dimensions	916 (W) x 997 (H) x 740 (D) mm (36 1/8 x 39 3/8 x 29 1/4 inches)
	Mass	220 kg (485 lb)

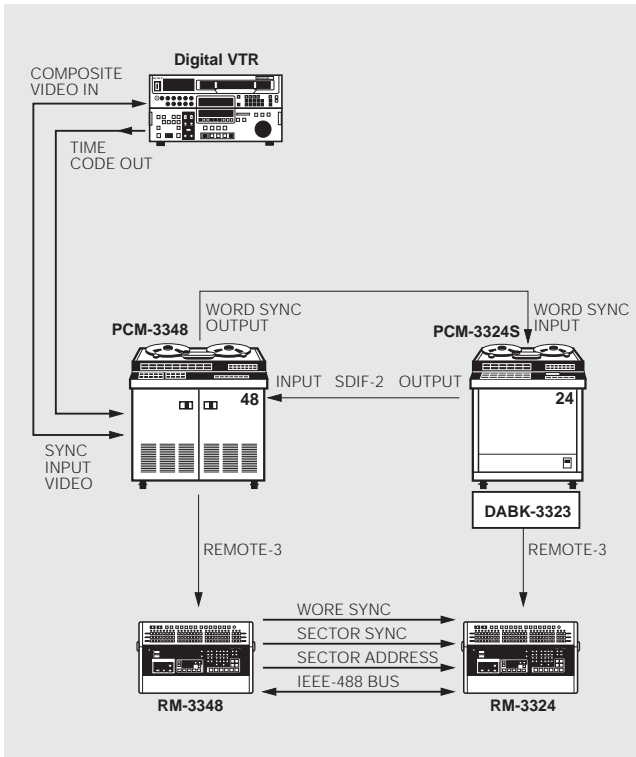




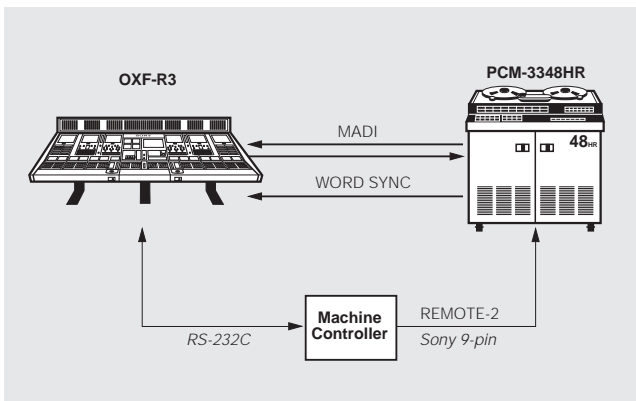


# System Configuration

## (1) Audio/Video Synchronization



## (2) Connection to OXF-R3



# SECTION 3

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## Disk Recorder for Film

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DADR-5000 Digital Audio Disk Recorder .....	17
DABK-F5001 Sync Board .....	17
DABK-F5002 AD/DA Converter Board .....	17

## Digital Audio Disk Recorder

**DADR-5000**

- Designed for film production facilities, replacement of film dubbers
- Non-linear operation using standard 3.5" drive with a removable carrier
- 16-track disk recorder/player
- Ultimate sound quality of 16-/20-/24-bit resolution
- Continuous playback between reverse play and 1.5 x forward speed
- Flexible machine control
  - Front panel control including jog dial
  - Screen-based control
  - Remote punch-in using GPI/GPO
- User-friendly editing
  - On-line/off-line editing
  - Destructive/non-destructive editing
  - Seamless punch-in/-out
  - "Cut and paste" editing
  - Track slip on each track
- Flexible networking
  - Stand-alone operation
  - Networked operation by connecting up to 10 units
  - Large networked system by connecting more than 10 units when Windows NT™ Server Operating System is installed (In all cases, the optional DABK-F5001 Sync Board must be installed in the master unit)
- Comprehensive synchronization
  - Locks to bi-phase, SMPTE/EBU, LTC, and VITC
  - Video sync, wordclock
  - Frame rates; 24, 25, 29ND, 29DF, 30ND and 30DF
- Back-up with MO disk using SCSI interface
- Direct play back of Pro Tools® session files

**Supplied Accessories****DADR-5000**

Operation manual (x 1)  
 Windows NT workstation license card (x 1)  
 Rack mount bracket (x 2), Token Ring cable (1 m, x 1)  
 Connectors kit (x 1),

**DABK-F5001**

Installation manual (x 1), connectors kit (x 1)

**DABK-F5002**

Installation manual (x 1), connectors kit (x 1)



DADR-5000 Rear Panel

**Specifications****Format/Performance**

Drive/Media (Option):	3.5" hard drive with a Kingston carrier			
Digital Audio Format:	16-/20-/24-bit Linear PCM			
Simultaneous Recording/playback:	16 channels			
Sample Rates:	44.056 k, 44.1 k, 44.144 k, 47.952 k, 48 k, 48.048 kHz			
Recording Time (minutes)				
at 4 GB, 16 tracks:	Rate	16-bit	20-bit	24-bit
	48 kHz	42	34	28

**Digital Audio Signal**

Frequency Response:	20 Hz to 20 kHz $\pm$ 0.5 dB (48 kHz)			
Dynamic Range:	More than 144 dB internal processing			
T.H.D.:	Less than 0.005% at 1 kHz, 23 dBu (-1 dBFs)			
Crosstalk:	Less than -90 dB at 1 kHz			
S/N Ratio				
A/D Converter:	More than 105 dB (20 kHz BW)			
D/A Converter:	More than 100 dB (20 kHz BW)			
Analog In to Analog Out:	More than 98 dB (20 kHz BW)			
Wow & Flutter:	Unmeasurable			

**Inputs/Outputs**

Digital Inputs:	16 ch, AES/EBU, D-sub 25-pin female			
Digital Outputs:	16 ch, AES/EBU, D-sub 25-pin male			
GP Input:	D-sub 37-pin female			
GP Output:	D-sub 25-pin male			
Analog Inputs (Option):	+4 dBu, balanced, more than 10 k $\Omega$ , D-sub 50-pin female			
Analog Outputs (Option):	+4 dBu, balanced, less than 100 $\Omega$ , D-sub 50-pin female			
DI/DO Sync:	D-sub 9-pin			
Sync Input (Option)				
Video:	BNC type			
Word:	BNC type			
VITC Input (Option):	BNC type			
LTC Input (Option):	SMPTE/EBU timecode, RCA type			
Bi-phase (Option):	Hirose 6-pin connector			
Serial Remote Control (Option):	Sony 9-pin			
Frame Rates:	24, 25, 29ND, 29DF, 30 ND, 30DF			
External Drive Interface:	SCSI II			
Network Control:	Token Ring			

**General**

Power Requirements:	AC 100 to 120V or AC 220 to 240 V, 50/60 Hz			
Power Consumption:	250 W			
Dimensions:	424 x 177 x 424 mm (16 3/4 x 7 x 16 3/4 inches)			
Mass:	17 kg (37 lb 8 oz)			

**Optional Accessories****DABK-F5001**

Sync Board

**DABK-F5002**

AD/DA Converter Board

# SECTION 4

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## CD Mastering System

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Digital Master Disc Recorder

## PCM-9000



- 2 channels, magneto-optical (MO) disc recorder
- Long recording times (at  $F_s=44.1$  kHz)
  - 100 minutes with 16-bit word length
  - 80 minutes with 20-bit word length
  - 65 minutes with 24-bit word length
- Quick random access
- 133 mm, single sided, 1.3 GByte, CLV disc
- AUX data space for edit data and TOC
- 44.1, 44.056 and 48 kHz sampling frequencies
- Locks to NTSC/PAL video, word clock or DI sync
- AES/EBU Digital I/O as standard

### Supplied Accessories

- AC power cord (x 1)
- Operation manual (x 1)
- Quick reference guide (x 1)
- Rack mount adaptor (x 1)



PCM-9000 Rear Panel with DABK-9001/9003/9004/9005

## Optional Accessories

### MSD-1200

Digital Audio Master Disc



- 133 mm (5.25 inches), single sided, magneto-optical (MO) disc
- 1.3 GByte recording capacity

### RM-D9000

Remote Control Unit



- Convenient remote operation of the PCM-9000
- Fitted onto the front panel of the PCM-9000 or located separately with a single cable connection

### DABK-9001

20-bit AD/DA Board

### DABK-9003

Remote/TC Interface Board

- 9-pin serial and 50-pin parallel remote interface
- SMPTE/EBU time code interface

### DABK-9004

SDIF-2 Interface Board

- 2 channels SDIF-2 digital Inputs/Outputs

### DABK-9005

SCSI Interface Board

- Up to eight units of the PCM-9000 can be controlled by RM-D9000
- Double speed copying

### DABK-9006

DAQ-1000 Interface Board

- Interface with a conventional DAQ-1000 PQ editing system



## Specifications

### Format/Performance

Recording Format:	Sony digital master disc proprietary format
Disc Size:	133 mm (5.25-inch), single sided
Digital Audio Channels:	2 channels
Sampling Frequency:	48 kHz, 44.1 kHz, 44.056 kHz selectable
Quantization:	16-bit linear, 20-bit linear, 24-bit linear selectable
Error Correction:	Sony super strategy Cross Interleave Read Solomon Code (CIRC)
Rotation Mode:	Constant Linear Verocity (CLV)
Recording Time:	100 minutes (Fs=44.1 kHz, 16-bit) 80 minutes (Fs=44.1 kHz, 20-bit) 65 minutes (Fs=44.1 kHz, 24-bit)
Variable Speed Range:	±12.5% (0.1% steps)
Editing Accuracy:	1 word

### Digital Audio Signal

#### PCM-9000 with DABK-9001 20-bit AD/DA Board

Frequency Response:	20 Hz to 20 kHz ±0.5 dB at Fs=48 kHz
Total Harmonic Distortion:	Less than 0.03% (20 Hz to 20 kHz at reference level)
Signal-to-noise Ratio:	More than 103 dB
Crosstalk between Channels:	Less than -100 dB at 20 Hz to 20 kHz

### Digital Inputs/Outputs

Digital Inputs:	2-ch, AES/EBU, XLR-3-31 type (x 1) 2-ch, SDIF-2 unbalanced, BNC type (x 2), w/DABK-9004
Digital Outputs:	2-ch, AES/EBU, XLR-3-32 type (x 1) 2-ch, SDIF-2 unbalanced, BNC type (x 2), w/DABK-9004
Insertion Send:	2-ch, AES/EBU, XLR-3-32 type (x 1)
Insertion Return:	2-ch, AES/EBU, XLR-3-31 type (x 1)

### Analog Inputs/Outputs

Analog Inputs:	2-ch, +4 dBu (+26 dBu max.), adjustable range of -6 dBu to +6 dBu, 20 kΩ/600 Ω selectable, balanced, XLR-3-31 type (x 2), w/DABK-9001
Analog Outputs:	2-ch, +4 dBu (+26 dBu max.), adjustable range of -6 dBu to +6 dBu, 60 Ω, balanced, XLR-3-31 type (x 2), w/DABK-9001

### Other Inputs/Outputs

Time Code IN:	SMPTE/EBU, 0.5 to 10 Vp-p, 10 kΩ, balanced, XLR-3-31 type (x 1), w/DABK-9003
Time Code OUT:	SMPTE/EBU, 2.4 Vp-p ±0.1 V, more than 10 kΩ, balanced, XLR-3-32 type (x 1), w/DABK-9003
Word Sync IN:	More than 3 Vp-p, 75 Ω, BNC type(x 2), loop-through
Word Sync OUT:	TTL compatible, 75 Ω, BNC type (x 2)
D/I Sync IN:	AES/EBU, XLR-3-31 type (x 1)
Reference Video:	Black Burst: 0.3 Vp-p, 75 Ω Composite Sync: 4 Vp-p, 75 Ω Square Wave: 0.3 to 5 Vp-p, 75 Ω BNC type (x 2), loop-through
Cue Data IN:	0.5 to 10 Vp-p, 600 Ω/10 kΩ, balanced, XLR-3-31 type (x 1), w/DABK-9006
Cue Data OUT:	2.4 Vp-p ±0.5 V, 600 Ω, balanced, XLR-3-32 type (x 1), w/DABK-9006
Status OUT:	RS-232C, D-sub 25-pin (x 1), w/DABK-9006
RM-D9000 Remote:	DIN 10-pin (x 1)
Serial Remote:	RS-422 or RS-232C, D-sub 9-pin (x 1), w/DABK-9003
Parallel Remote:	TTL compatible, D-sub 50-pin, w/DABK-9003
DAQ-1000 I/F:	TTL compatible, amphenol 36-pin (x 1), w/DABK-9006
SCSI I/F:	50-pin (x 1), w/DABK-9005

### General

Power Requirements:	AC 100 to 240 V, 50/60 Hz
Power Consumption:	130 W (with maximum options)
Dimensions:	424 (W) x 177 (H) x 455 (D) mm (16 3/4 x 7 x 17 3/4 inches)
Mass:	17 kg (37 lb 8 oz), PCM-9000 with RM-D9000

# SECTION 5

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## Super Audio CD Production System

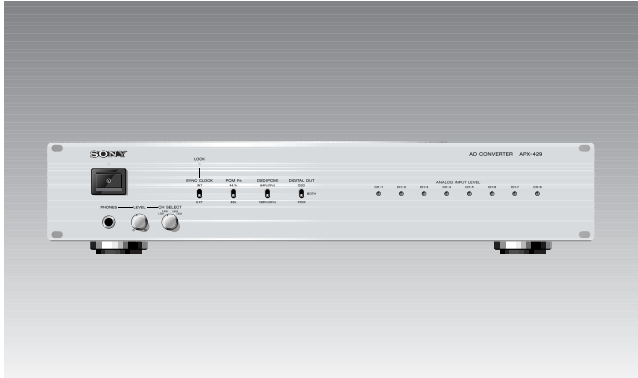
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8-Channel AD Converter

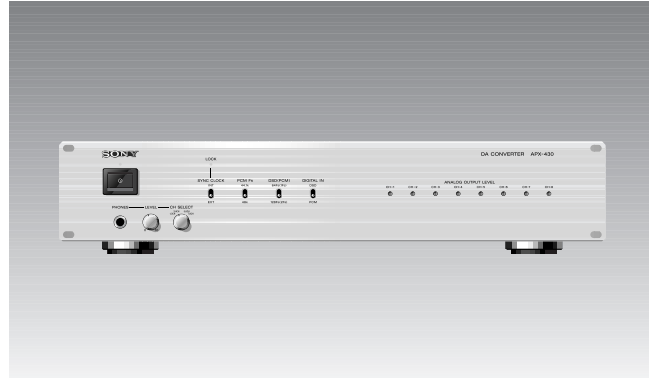
# AD-1800RS



- Exceptional sound quality
- Individual outputs for DSD (64 or 128 Fs) and PCM (at 1 Fs or 2 Fs)
- DSD output in SDIF-3 format
- PCM output in AES/EBU format
- Multi-turn controls for precise gain adjustment
- Maximum input level +24 dBu
- 2U high, rack mountable unit

8-Channel DA Converter

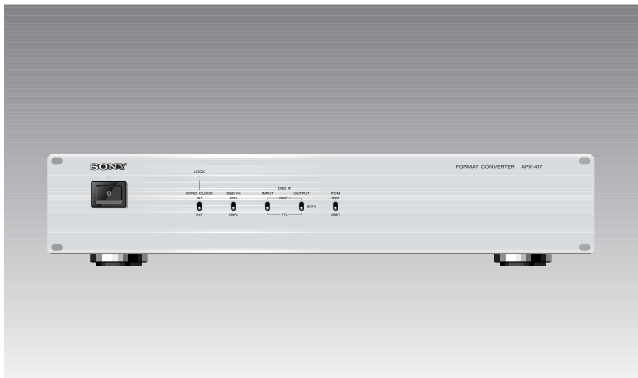
# DA-1800RS



- Selectable inputs for DSD (64 or 128 Fs) or PCM (at 1 Fs or 2 Fs)
- DSD input in SDIF-3 format
- PCM input in AES/EBU format
- Multi-turn controls for precise gain adjustment
- Maximum output level +24 dBu
- 2U high, rack mountable unit

Format Converter

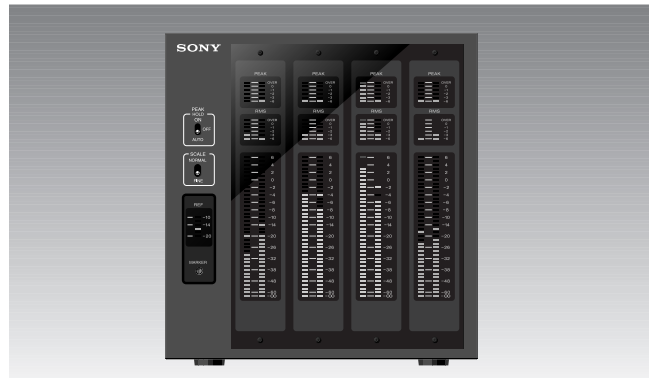
# K-1338



- Provides I/O format conversion for existing Sony PCM-3348HR or DADR-5000 multi-track recorders
- Using two K-1338 format converters, 12 channels of DSD (64 Fs) can be recorded across the 48 tracks of a PCM-3348HR recorder. Alternatively, six channels of 128 Fs DSD can be recorded and played back. SDIF-2 is used as the interface format between the K-1338 converters and the recorder.
- With one K-1338, six channels of DSD (64 Fs) can be recorded and played back by a DADR-5000 recorder. Alternatively, three channels of 128 Fs DSD can be recorded and played back. AES/EBU is used as the interface format between the K-1338 converter and the recorder.

DSD Meter Unit

# K-1341



- Eight channel meters for monitoring signal levels
- Verifies signals are in accordance with the SACD specification
- Multi-display mode

# SECTION 6

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CD Player System

# CDP-3100/CDS-3100



- Front loading and highly compact CD player
- Two units can be mounted in a 19-inch rack
- Fully featured remote control, including jog dial for comprehensive control in on air and production applications
- AES/EBU digital and balanced XLR analog outputs
- Variable speed playback in a range of  $\pm 12.5\%$  in 0.1% steps

**Supplied Accessories**

**CDP-3100 CD Player**

- AC power cord (x 1)
- Operation manual (x 1)

**CDS-3100 Remote Controller**

- Connecting cord (2 m, x 1)
- Operation manual (x 1)

## Specifications (CDP-3100)

Number of Channels:	2 channels (stereo)
Readout System:	Non-contact optical system using semiconductor laser pick-up
Laser:	GaAlAs double hetero junction diode with 780 m wavelength
Rotational Speed:	Between approx. 200 rpm (outer circumference) and 500 rpm (inner circumference)
Error Correction:	Sony super strategy cross Interleave Reed Solomon Code (CIRC)
D/A Conversion:	18-bit 8 times oversampling
Frequency Response:	20 to 20,000 Hz +0.5/-1.0 dB
Harmonic Distortion:	Less than 0.01%
Wow and Flutter:	Below measurable limit
Signal-to-noise Ratio:	More than 92 dB
Crosstalk:	Less than -80 dB at 20 kHz
Variable Speed Range:	$\pm 12.5\%$
Outputs	
LINE OUT:	Balanced, XLR-3-32 type (x 2), nominal +4 dBu (600 $\Omega$ ), maximum +19 dBu (600 $\Omega$ )
MONITOR OUT:	Unbalanced (x 2), nominal -10 dBu (47 k $\Omega$ ) maximum +5 dBu (47 $\Omega$ )
DIGITAL OUT:	AES/EBU, XLR-3-32 (x 1)
HEADPHONE OUT:	Maximum 0 dBu (32 $\Omega$ )
Remote Control I/F:	DIN 8-pin for fader start control, 10-pin for CDS-3100
Power Requirements:	AC 100, 120, 220 to 230, 240 V, 50/60 Hz
Power Consumption:	35 W
Dimensions:	212 (W) x 118 (H) x 408 (D) mm (8 1/3 x 4 3/4 x 16 1/8 inches)
Mass:	6.5 kg (14 lb 5 oz)

## Optional Accessories

### DABK-3101

- Memory Board
- Provides memory cueing and instant start

### DABK-3102

- Interface Board
- Provides sampling rate conversion (38 to 50 kHz)
- Synchronizes to an external video reference, word clock or D/I sync
- 9-pin serial remote control



CDP-3100 Rear Panel

## CD Player

**CDP-D500**

- Jog shuttle dial for CD frame accurate cueing
- CD TEXT format compatibility for various CD TEXT information (disc title, track title, etc) to be read out via RS-232C port
- Last cue memory function can be utilized by Cue/stdby button
- Built-in DIN 8-pin remote control connector for fader start/stop from a mixing console
- Built-in word sync input with wide lock range (44.1 kHz  $\pm$ 12.5%)
- Index cueing capability
- Variable speed playback ( $\pm$ 12.5% in 0.1% steps)
- Auto cue playback for rapid start from a point where modulation is detected (signal detection level is adjustable) on disc
- Adjustable (1 to 9 seconds) Auto fade on the front panel
- Direct track access on the front panel
- Built-in digital outputs conforming to AES/EBU and Unbalanced (IEC-958) formats
- Accommodates both 8 cm (3-inch) and 12 cm (5-inch) compact discs

**Supplied Accessories**

- Wireless remote commander RM-D500 (x 1)
- AC power cord (x 1)
- Screws (M5 x 12) (x 4)
- Decorative washers (x 4)



CDP-D500 Rear Panel

**Specifications**

Frequency Response:	5 to 20,000 Hz
Signal-to-noise Ratio:	More than 100 dB (20,000 Hz LPF IHF-A Weighted)
Dynamic Range:	More than 98 dB
T.H.D.:	Less than 0.004% (at 1 kHz, 0 dB 20 kHz LPF)
CH Separation:	More than 100 dB (at 1 kHz to 20 kHz LPF)
Analog Output:	
XLR-3	
Output Impedance:	100 $\Omega$
Max. Output Level:	+24 dBu
Load Impedance:	10 k $\Omega$
RCA Phono	
Output Impedance:	200 $\Omega$
Max. Output Level:	+9 dBu
Load Impedance:	10 k $\Omega$
H.P.(RCA Phono)	
Output Impedance:	150 $\Omega$
Max. Output Level:	15 mV
Load Impedance:	32 $\Omega$
Digital Output:	
AES/EBU (XLR-3)	
Output Impedance:	35 $\Omega$
Output Level:	—
Adaptable Load Impedance:	110 $\Omega$
IEC-958 (RCA Phono)	
Output Impedance:	75 $\Omega$
Output Level:	0.5 p-p
Adaptable Load Impedance:	75 $\Omega$
Word Sync Input:	
Input Impedance:	22 k $\Omega$ /75 $\Omega$ Switchable (BNC)
Input Level:	2 Vp-p (TTL)
Lock Range:	44.1 kHz $\pm$ 12.5% (38.59 to 49.6 kHz)
Remote Interface:	Parallel DIN 8-pin (2 mode) Serial RS-232C (D-sub 9-pin)
Dimensions:	482 (W) x 145 (H) x 335 (D) mm (19 x 7 <sup>7</sup> / <sub>8</sub> x 14 <sup>7</sup> / <sub>8</sub> inches)
Mass:	7.1 kg (15 lb 10 oz)

CD Player

# CDP-L3



SECTION 6

- XLR-type balanced output and auto cue editing capabilities
- High connectivity for future system integration with a variety of equipment via digital and analog output jacks with a preset volume
- Advanced digital technology for sound quality design
- Digital filter incorporating full feed-forward system to fully utilize audio data normally rounded off by conventional filters
- Eliminates quantization noise in the audible range while greatly improving fine signal quality
- Advanced Pulse D/A Converter with an output density capacity of 90 million pulses/sec
- Direct digital synchronization for D/A conversion free of phase distortion caused by jitter
- Auto Cue skips over the first few seconds of non-music area to automatically engage the Pulse mode at the beginning of each track for easy editing
- Auto Cue allowing to easily adjust timing for quick insertion
- A-B repeat allows multiple replay of a designated area between any two points selected
- Auto pause at the end of each piece of music to facilitate mixing as well as a variety of other possible editing applications
- Auto pause for combined use with Auto Cue which provides instant access to the beginning of each pre-recorded song, narration or sound effect at the touch of a button when using a CD-R (CD recordable)
- XLR-type balanced output jack for precise output level adjustment
- Digital to digital connectivity without sound distortion
- One/all/shuffle/program/delete/shuffle/A-B 7-mode repeat playback fader function for one-touch fade-in/out
- 20-selection Music Calendar, 20-key direct selection (main unit), Timer play
- Headphone jack with volume control

## Specifications

Frequency Response:	20 to 20,000 Hz $\pm$ 0.5 dB
Harmonic Distortion:	Below 0.0025%
Signal-to-noise Ratio (EIAJ):	Over 113 dB
Dynamic Range (EIAJ):	Over 89 dB
Wow and Flutter (EIAJ):	Below measurable limit ( $\pm$ 0.001% W-Peak)
Output Jack:	Line output: 2 systems (RCA Phono/XLR-3-32 compatible connector) 1 optical digital system Headphone output (RCA Phone jack)
Dimensions:	430 (W) x 125 (H) x 286 (D) mm (17 1/8 x 5 x 11 3/8 inches) 482 (D) mm (19 inch), 3U size (H) when with rack mount adaptor
Mass:	4.1 kg (9 lb)
Power Consumption:	11 W



CDP-L3 Rear Panel

## CD Player

**CDP-D11**

- Both coaxial and optical connections for digital output (IEC958)
- XLR type and Phono connectors for analog output
- SPEED CONTROL ( $\pm 12.5\%$  in 0.5% steps), INSTANT START, MARK&LOCATION functions
- Program, shuffle, A-B repeat functions are available
- In addition to infrared sensor, it loaded CTRL-S terminal, RS-232C and parallel remotes of Relay Playback
- Timer playback capability with an external timer
- High density linear conversion provides superb sound quality
- Supplied commander responded to wired control and infrared wireless control

**Supplied Accessories**

Wired/Wireless remote commander RM-DS11 (x 1)



CDP-D11 Rear Panel

**Specifications**

Output			
	Type of Connector	Reference Level	Load Impedance
Headphone	Phone	0 -10 mW (Variable)	32 $\Omega$
Analog Line Out	Phono	Max. +8 dBu	More than 10 k $\Omega$
	XLR-3-32	Max. +10/+24 dBu (Switch)	More than 600 $\Omega$
Digital Optical Out	Square optical Connector	Optical power -18 dBm	Wave length: 600 nm
Digital Coaxial Out	Phono	0.5 Vp-p (at 75 $\Omega$ )	75 $\Omega$

Wow and Flutter:	Below measurable limits
Frequency Response:	20 to 20,000 Hz $\pm 0.5$ dB
T.H.D.:	Less than 0.01%
S/N Ratio	More than 91 dB
Remote Connectors:	Parallel remote (D-sub 9-pin, mm standard) (x 1) RS-232C (D-sub 9-pin, male type) (x 1) Relay/Play (stereo mini plug, Out/Play in) (x 2) CTRL-S (x 1)
Power Requirements:	AC 120 V, 230 V 50/60 Hz
Dimensions:	482 (W) x 44 (H) x 350 (D) mm (19 x 1 <sup>3</sup> / <sub>4</sub> x 13 <sup>7</sup> / <sub>8</sub> inches)
Mass:	5.2 kg (11 lb 7 oz)

# SECTION 7

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## MiniDisc Recorders and Players

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MiniDisc Recorder/Player

# MDS-DRE1



- Versatile MD recorder/player designed especially for DJs
- Operation like turntables
- Back track recording for users to simultaneously play back and record on a single disc
- Big jog dial for  $\pm 100\%$  speed control during play back and digital scrubbing during pause
- Easy Editing functions; DIVIDE, MOVE, COMBINE, ERASE, NAME, UNDO, and more
- 8 cuepoint memories with 8 handy key pads (4 banks)
- 8-track hot start with 8 handy key pads. Assign list can be recorded in TOC area (up to 8 tracks).
- Independent speed & pitch control slider ( $\pm 12\%$ )
- Seamless loop & re-loop; real-time loop, IN/OUT point correction and re-loop
- Auto-cue/pause
- Program play mode; play list (up to 25 tracks) can be recorded in TOC area, as hot start play mode
  - Resume play
  - Repeat on/off
  - Single play on/off
  - Headphone output with volume control
  - End of message
  - Foot switch control

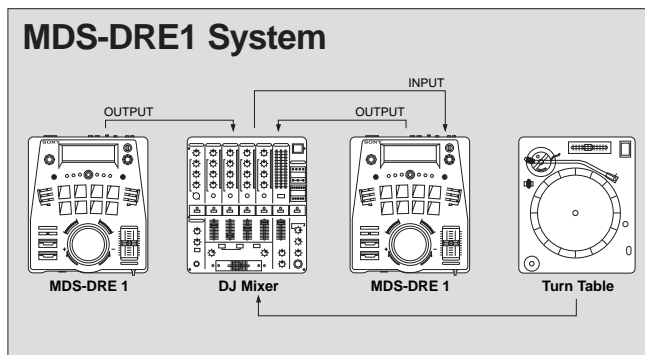


MDS-DRE1 Rear Panel

## Specifications

System:	Minidisc Digital Audio System	
Disc:	MiniDisc	
Rotation Speed:	Approx. 400 to 900 rpm (CLV)	
Error Correction:	ACIRC	
Sampling Frequency:	44.1 kHz	
Coding:	ATRAC	
Method of Transformations:	EFM	
Number of Channels:	2 channels (stereo)	
Signal-to-noise Ratio:	96 dB	
Wow and Flutter:	Below measurable limit ( $\pm 0.001\%$ W. Peak)	
Inputs	Jack type	Impedance
Line in:	Phono jacks	47 k $\Omega$
Digital optical in:	Square optical connector jack	-
Digital coaxial in:	Phono jacks	75 $\Omega$
Foot switch Rec/Pause:	Standard monaural jack	-
Foot switch Play/Pause:	Standard monaural jack	-
Outputs		
Line out:	Phono jacks	More than 10 k $\Omega$
Phones:	Standard stereo jack	32 $\Omega$
Power Requirement:	U.S.A. and Canada	AC 120 V, 60 Hz
	Continental Europe and UK	AC 220 to 230 V, 50/60 Hz
Power Consumption:	28 W	
Dimensions:	300 (W) x 121 (H) x 356 (D) mm (11 <sup>7</sup> / <sub>8</sub> x 4 <sup>7</sup> / <sub>8</sub> x 14 <sup>1</sup> / <sub>8</sub> inches) Including projecting parts and controls	
Mass:	4.1 kg (9 lb 1 oz)	

SECTION 7



## Optional Accessory

### FS-A8

Foot Switch







*MiniDisc Recorder and Player*

# MDS-B5/B6P



MDS-B5



MDS-B6P

SECTION 7

- Professional-use MD recorder and player, with features such as the use of recordable disc media, ATRAC, and memory technology
- Direct duplication link for copying compressed signals (MDS-B5) at high-speed  
This technology is also effective for eliminating fragmentation on heavily edited discs when changing the order of the TOC
- Up to 10 tracks of Multi-Access hot start by using the supplied remote commander, IBM type keyboard or parallel remote port
- RAM-TOC edit for saving master disc contents for deciding whether to save edited recording data to a master disc, allowing temporary editing of a pre-mastered disc
- Powerful editing feature: Nm Copy, Undo, Cue point, Head trim, Head trim all, End trim
- Up to 148 minutes of monaural recording (MDS-B5)
- Next track selection for selecting the next track for playback while listening to the current audio track
- ±12.5% vari-speed
- Operation with a wide variety of remote interface equipment, such as IBM keyboard, supplied remote commander, RS-232C and GPI
- Remote interface options
- Headphone jack with volume control on the front panel

**Supplied Accessories**

- Wired remote controller RM-DC2 (MDS-B5) (x 1)
- AC power cord (x 1)
- Direct duplication cable (x 1)
- Key board template (x 2)
- Operation manual (x 1)

## Specifications

**Digital Audio Signal Format**

System:	MiniDisc digital audio system
Disc:	MiniDisc
Modulation:	8 to 14 Modulation
Digital Audio Channel:	2 channels, Mono
Sampling Frequency:	44.1 kHz
Error Correction:	ACIRC
Rotation Mode:	CLV (about 400 to 900 rpm)

**Inputs/Outputs**

Analog IN:	XLR-3, Female (MDS-B5) Reference level: +4 dBu (factory setting) to -12 dBu
Analog OUT:	XLR-3, Male Reference level: +4 dBu (factory setting) to -12 dBu Max level: +24 dBu
Digital IN (AES/EBU):	XLR-3, Female (MDS-B5)
Digital OUT (AES/EBU):	XLR-3, Male
Digital IN (Coaxial):	RCA Phono (MDS-B5)
Digital OUT (Coaxial):	RCA Phono

**Remote Interface**

REMOTE:	D-sub 25-pin (Female), Parallel
RS-232C:	D-sub 9-pin (Male), Serial
Keyboard IN:	PS2 type input
Supplied Remote IN:	Mini plug

**General**

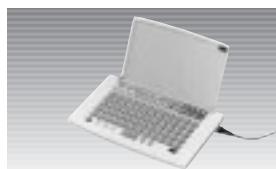
Power Requirements:	AC 120 V, 60 Hz (USA and Canada) AC 220 to 230 V, 50/60 Hz (Europe)
Power Consumption:	30 W
Dimensions:	212 (W) x 139 (H) x 375 (D) mm (8 3/8 x 5 1/2 x 14 7/8 inches)
Mass:	5 kg (11 lb)



MDS-B5 Rear Panel



MDS-B6P Rear Panel



RM-DC2 Supplied Remote Controller



MDS-B5 with a keyboard connected

## Optional Accessories

**PRMD-74**

Recordable MiniDisc

## MiniDisc Recorder

**MDS-E11**

- Wide bit stream for superb sound quality and precision sampling rate converter
- Coaxial connectors (phono) for digital I/O (IEC958)
- Phono jack and XLR type connectors for analog I/O
- Sony wired Control-S terminal for remote operation
- Comprehensive remote control, RS-232C, parallel remote ports and Relay Record/Play
- CD synchro recording capability with Sony CD players
- Timer playback and recording, using an external timer
- SCMS
- Compact 1U size high body
- Optional wired remote control unit RM-D5ME

**Supplied Accessory**

Wireless remote commander RM-D7M (x 1)



MDS-E11 Rear Panel

**Specifications**

Input				
	Type of Connector	Reference Level	Max. Input	Input Impedance
Analog Line In	Phono	-4 dBu	+12 dBu	47 k $\Omega$
	XLR-3-31	+4 dBu	+24 dBu	More than 20 k $\Omega$
Digital Coaxial In	Phono	0.5 Vp-p $\pm$ 20%	—	75 $\Omega$

Output			
	Type of Connector	Reference Level	Load Impedance
Headphone	Stereo phone	0-10 mW The level varies.	32 $\Omega$
Analog Line Out	Phono	Max. +8 dBu	More than 10 k $\Omega$
	XLR-3-32	+10/+24 dBu (switchable)	More than 600 $\Omega$
Digital Coaxial Out	Phono	0.5 Vp-p (at 75 W)	75 $\Omega$

System:	MiniDisc Digital Audio System
Sampling Frequency:	44.1 kHz
Coding:	Adaptive Transform Acoustic Coding (ATRAC)
Wow and Flutter:	Below measurable limits
Frequency Response:	5 Hz to 20 kHz $\pm$ 0.5 dB
Dynamic Range:	digital 97 dB/analog 92 dB
S/N Ratio:	digital 96 dB/analog 92 dB
Power Requirements:	AC 120V, 230V 50/60 Hz
Dimensions:	482 (W) x 44 (H) x 350 (D) mm (19 x 1 <sup>3</sup> / <sub>4</sub> x 13 <sup>7</sup> / <sub>8</sub> inches)
Mass:	5.3 kg (11 lb 11 oz)

MiniDisc Recorder

# MDS-E52\*



SECTION 7

- Wide bit stream for superb sound quality and precision sampling rate converter
- Both coaxial and optical connections for digital I/O (IEC958)
- Phono jack and XLR type connectors for analog I/O
- Music Sync recording makes digital dubbing from CD
- Sony wired Control-S terminal for remote operation
- RS-232C port for PC or a radio automation system control
- 25-track Program Memory, plus SHUFFLE/REPEAT playback
- Automatic pause function
- SCMS
- Optional wired remote control unit RM-D5ME

**Supplied Accessory**

Wireless remote commander RM-D7M (x 1)



MDS-E52 Rear Panel

## Specifications

Input				
	Type of Connector	Reference Level	Max. Input	Input Impedance
Analog Line In	Phono	-4 dBu	+12 dBu	47 kΩ
	XLR-3-31	+4 dBu	+24 dBu	More than 20 kΩ
Digital Optical In	Square optical Connector	Optical wave length: 660 nm		
Digital Coaxial In	Phono	0.5 Vp-p ±20%	—	75 Ω

Output			
	Type of Connector	Reference Level	Load Impedance
Headphone	Stereo phone	0-10 mW The level varies.	32 Ω
Analog Line Out	Phono	Max. +8 dBu	More than 10 kΩ
	XLR-3-32	+10/+24 dBu (switchable)	More than 600 Ω
Digital Optical Out	Square optical Connector	Optical power -18 dBm	Wave length: 660 nm
Digital Coaxial Out	Phono	0.5 Vp-p (at 75 Ω)	75 Ω

System: MiniDisc Digital Audio System

Sampling Frequency: 44.1 kHz

Coding: Adaptive Transform Acoustic Coding (ATRAC)

Wow and Flutter: Below measurable limits

Frequency Response: 5 Hz to 20 kHz ±0.5 dB

Dynamic Range: digital 97 dB/analog 92 dB

S/N Ratio: digital 96 dB/analog 92 dB

Power Requirements: AC 120 V, 230 V 50/60 Hz

Dimensions: 482 (W) x 88 (H) x 285 (D) mm  
(19 x 3 1/2 x 11 1/4 inches)

Mass: 4.5 kg (9 lb 15 oz)

\*Not available in USA

MiniDisc Recorder

# MDS-E58



- Wide bit stream for superb sound quality and precision sampling rate converter
- Both coaxial and optical connections for digital I/O (IEC958)
- Phono jack connectors for analog I/O
- Fully-featured TOC EDIT functions, including UNDO/DIVIDE/COMBINE
- Recording functions including CD Sync, Music Sync and Time-machine recording
- Music Scan function for quick track location
- SCMS
- Optional wired remote control unit RM-D5ME

**Supplied Accessory**

Wireless remote commander RM-D7M (x 1)



MDS-E58 Rear Panel

## Specifications

Input				
	Type of Connector	Reference Level	Max. Input	Input Impedance
Analog Line In	Phono	-4 dBu	+12 dBu	47 kΩ
Digital Optical In	Square optical Connector	Optical wave length: 660 nm		
Digital Coaxial In	Phono	0.5 Vp-p ±20%	—	75 Ω

Output			
	Type of Connector	Reference Level	Load Impedance
Headphone	Stereo phone	0-10 mW The level varies.	32 Ω
Analog Line Out	Phono	Max. +8 dBu	More than 10 kΩ
Digital Optical Out	Square optical Connector	Optical power -18 dBm	Wave length 660 nm
Digital Coaxial Out	Phono	0.5 Vp-p (at 75 Ω)	75 Ω

System: MiniDisc Digital Audio System  
 Sampling Frequency: 44.1 kHz  
 Coding: Adaptive Transform Acoustic Coding (ATRAC)  
 Wow and Flutter: Below measurable limits  
 Frequency Response: 5 Hz to 20 kHz ±0.5 dB  
 Dynamic Range: digital 97 dB/analog 92 dB  
 S/N Ratio: digital 96 dB/analog 92 dB  
 Power Requirements: AC 120 V, 230 V 50/60 Hz  
 Dimensions: 482 (W) x 88 (H) x 285 (D) mm  
 (19 x 3 1/2 x 11 1/4 inches)  
 Mass: 4 kg (8 lb 13 oz)

## Optional Accessory

### RM-D5ME

Remote Control Unit



- This unit can be used either in IR wireless mode or connected to the recorder's Control-S Port via its 5 m cable

# SECTION 8

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## Analog Audio Recorder

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Stereo Cassette Recorder

## TC-D5 PRO II



- Reliable mechanism with Capstan-Servo Disc-drive system
- CANNON XLR female microphone input connectors for balanced inputs
- 2-way supply: two "D" size batteries or optional AC power adaptor AC-D4HG
- Dimensions: 242 x 48 x 168 mm (W x H x D)  
(9 <sup>5</sup>/<sub>8</sub> x 1 <sup>15</sup>/<sub>16</sub> x 6 <sup>5</sup>/<sub>8</sub> inches)
- Mass: 1.7kg (3 lb 12 oz)

**Supplied Accessories**

- Connecting cord (x 1)
- Carrying case (x 1)
- Shoulder belt (x 1)
- Belt (x 1)

# SECTION 9

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## Processors

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## Sampling Digital Reverberator

**DRE-S777**

- Rich and natural reverb sound based on the use of sampled reverb data
- Newly developed DSP that enables real-time convolution of real impulse response
- Operational modes;
  - Reverb mode;
    - Mono in Stereo out (standard)
    - Stereo in Stereo out (with DABK-S703)
    - Mono in 4-ch out\* (with DABK-S703)
    - Two mono split in 4-ch out\* (with DABK-S703)
    - Mono in Stereo out at 2 Fs (with DABK-S703)
  - Direct/Rev; Direct+Reverb/Reverb
- Reverb programs;
  - Standard software;
    - Hall x 2, recording studio x 1, church x 2, plate x 2
  - Optional software (DASK-S701);
    - Halls (Concertgebouw, Musikvereinsaal and Konzerthaus) and churches (Jesus-Christus-Kirche, Westerkerk and St. Vincente)
- 96 kHz sampling for higher level of sound quality
- Extraordinary signal-to-noise ratio
- High quality A/D and D/A conversion
- Variable reverberation time: 0.3 - 6.0 s max.
- Pre-delay: 0 - 0.5 s
- Mixer function: peak hold, bypass, mixture of dry/wet, muting
- Four-band parametric EQ
- Factory-presets provided in Memory Stick™
- 92 user-presets capability using Memory Stick
- 9 user caches for quick program recall
- Easy operation via jog dial and four function-keys

\*In addition to the DABK-S703 DSP board, analog 4-ch output requires two DABK-S702 D/A Converter Boards.

**Supplied Accessories**

- Sampling reverb data CD-ROM (x 1)
- PC card adapter (x 1)
- Memory Stick™ (x 1)
- Operation manual (x 1)
- Rack mount adapter (x 2)



DRE-S777 Rear Panel

**Specifications****DRE-S777**

Reverb Algorithm:	Real impulse response
Number of Preset:	7 (hall x 2, recording studio x 1, church x 2, plate x 2)
Reverb Parameter	
Reverb Time:	0.3 - 6.0 (max.) seconds
Pre-delay Time:	0 - 0.5 seconds
Sampling Frequency:	44.1/48 kHz (standard) 88.2/96 kHz (optional)
Quantization:	24 bit
Digital Input:	AES/EBU, XLR-3-31 type (x 1)
Digital Output:	AES/EBU, XLR-3-32 type (x 2) (4-ch output is optional)
Analog Input:	XLR-3-31 type (x 2, optional)
Analog Output:	XLR-3-32 type (x 4, optional)
External Synchronization:	Word sync (SDIF compatible, 75 Ω, BNC type) DI sync -12.5 to +8% variable
Dimensions:	481.5 x 110 x 514.5 mm (19 x 4 3/8 x 20 3/8 inches)
Mass:	15 kg (33 lb 1 oz) (with full options)
Power Consumption:	60 W (with full options)
Power Requirements:	120 V (UC), 220-240 V (CE), 50/60 Hz

**DABK-S701 A/D converter**

Input Impedance:	600 Ω or 10 kΩ switchable
Standard Level:	0 or +4 dBu switchable
Maximum Level:	+24 dBu
CMRR:	More than 50 dB (1 kHz)
Dynamic Range:	110 dB
Signal-to-noise Ratio:	110 dB
T.H.D.:	0.005% (-20 dBFs)
Crosstalk:	90 dB (8 kHz)
Frequency Response:	20 Hz to 20 kHz +0.2 dB/-0.3 dB (Fs=44.1 kHz, 48 kHz) 20 Hz to 40 kHz +0.2 dB/-0.3 dB (Fs=88.2 kHz, 96 kHz)

**DABK-S702 D/A converter**

Output Impedance:	Less than 50 Ω
Standard Level:	0 or +4 dBu (600 Ω) switchable
Maximum Level:	+24 dBu (600 Ω)
Dynamic Range:	110 dB
Signal-to-noise Ratio:	110 dB
T.H.D.:	0.015% (-20 dBFs)
Crosstalk:	90 dB (8 kHz)
Frequency Response:	20 Hz to 20 kHz +0.2 dB/-0.3 dB (Fs=44.1 kHz, 48 kHz) 20 Hz to 40 kHz +0.5 dB/-0.6 dB (Fs=88.2 kHz, 96 kHz)

**Optional Accessories****DABK-S701**

A/D Converter Board

**DABK-S702**

D/A Converter Board

**DABK-S703**

Expansion DSP Board

**DASK-S701**

Sampling Reverb Software  
"European Halls & Churches"  
Halls (Concertgebouw, Musikvereinsaal and Konzerthaus),  
churches (Jesus-Christus-Kirche, Westerkerk and St. Vincente)



Multi Effect Processor

# DPS-V55/V55M



DPS-V55

- High sound quality, multi function, 4-channel multi effect processor
- Outfitted with four inputs and four outputs
- A variety of sound creations through the chosen effect algorithm and program structure
- User-friendly operation with the EDIT PARAMETER buttons
- Large memory capacity; preset memories: 200, user memories: 200
- Search function for easily locating programs by selecting types of effects
- Tap function for easy adjustment of parameters and triggering of effects
- MIDI compatibility, program change and data save operation are available
- 2U, rack-mountable

SECTION 9



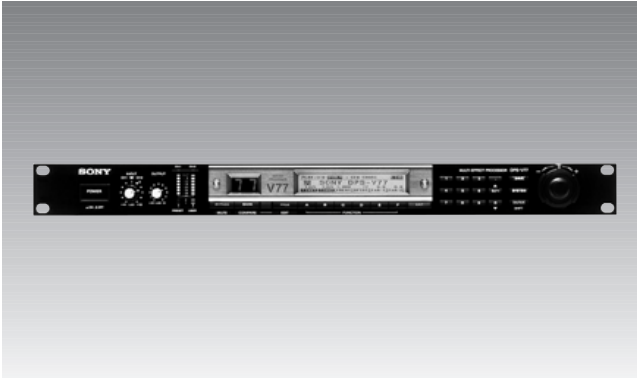
DPS-V55 Rear Panel

## Specifications

A/D Converter:	20 bit resolution
D/A Converter:	20 bit resolution
Sampling Frequency:	48 kHz
Frequency Response:	20 to 22,000 Hz (+0, -1 dB)
Signal-to-noise Ratio:	More than 93 dB
Dynamic Range:	More than 93 dB
Total Harmonic Distortion:	Less than 0.005% (1kHz)
Inputs:	
Rear panel:	4-ch, -10 dBu or +4 dBu, more than 4 kΩ, unbalanced, PHONE type
Front panel:	1-ch, 50 dBu, -10 kΩ, balanced, XLR/PHONE (combination)
<only for DPS-V55M>	
Outputs:	4-ch, -10 dBu or +4 dBu, less than 1 kΩ, unbalanced, PHONE type
MIDI:	IN x 1, OUT/THRU x 1
Memory Capacity:	Preset memories: 200 locations User memories: 200 locations
Power Requirements:	DPS-V55: AC 120 V DPS-V55M: AC 230 V
Power Consumption:	DPS-V55: 13 W DPS-V55M: 12 W
Dimensions:	482 (W) x 88 (H) x 265 (D) mm (19 x 3 1/2 x 10 1/2 inches)
Mass:	3.6 kg (7 lb 14 oz)

\*0 dBu = 0.775 v.r.m.s

## Multi Effect Processor

**DPS-V77**

- Superior sound quality by 24-bit resolution A/D, 52-bit internal processing, and 20-bit resolution D/A
- 2 independently controllable effect blocks and level mixer blocks
- EQ/main effect in each effect block
- Easy-to-operate large display, jog and shuttle function, 10 keys, preset number display with 7 segment LED, and SPC (Standard Parameter Configuration)
- Digital I/O (44.056, 44.1 or 48.0 kHz) AES/EBU or SPDIF
- 198 preset memories and 198 user memories (99 x 2 Blocks, 99 x 2 Blocks)
- Long Delay Time
  - Standard: 32-bit mode 1.3 s St. (2.6 s, Mono)
  - x 2: 16-bit mode 2.7 s St. (5.2 s, Mono)
- MIDI control/assignable foot control
- 1U/full rack size
- Seamless morphing transition between 2 presets

**Optional Accessories****RK-V77A**

Digital Interface Cable (AES/EBU)

**RK-V77S**

Digital Interface Cable (SPDIF)



DPS-V77 Rear Panel

**Specifications**

Quantization:	Internal 52-bit, delay memory 32-bit		
A/D Converter:	1-bit ADC (24-bit resolution)		
D/A Converter:	1-bit DAC (20-bit resolution)		
Sampling Frequency:	Analog IN: 48 kHz Digital IN: 44.1 kHz, 48 kHz		
Frequency Response:	20 to 22,000 Hz		
Signal-to-noise Ratio:	More than 97 dB		
Dynamic Range:	More than 97 dB		
Total Harmonic Distortion:	Less than 0.0035%		
Analog Inputs:	2-ch, +4 dBu, 10 k $\Omega$ , balanced, XLR-3-31 type 2-ch, +4 dBu or -20 dBu, 50 k $\Omega$ , unbalanced, PHONE type		
Analog Outputs:	2-ch, +4 dBu, 1 k $\Omega$ , balanced XLR-3-31 type 2-ch, +4 dBu or -20dBu, 1 k $\Omega$ , unbalanced, PHONE type		
Digital I/O:	Mini DIN 8-pin, AES/EBU & SPDIF (w/optional cable)		
MIDI:	IN/OUT or through		
Assignable Control IN:	PEDAL1/PEDAL 2		
Memory Capacity:	Preset Memories:	Bank1	99
		Bank2	99
	User Memories:	Bank1	99
		Bank2	99
Power Requirements:	AC 100/120/220-230 V		
Power Consumption:	21 W		
Dimensions:	482 (W) x 44 (H) x 320 (D) mm (19 x 1 <sup>3</sup> / <sub>4</sub> x 12 <sup>5</sup> / <sub>8</sub> inches)		
Mass:	5 kg (11 lb)		

\*0 dBu = 0.775 v.r.m.s

Digital Audio Processor

# SRP-F700\*

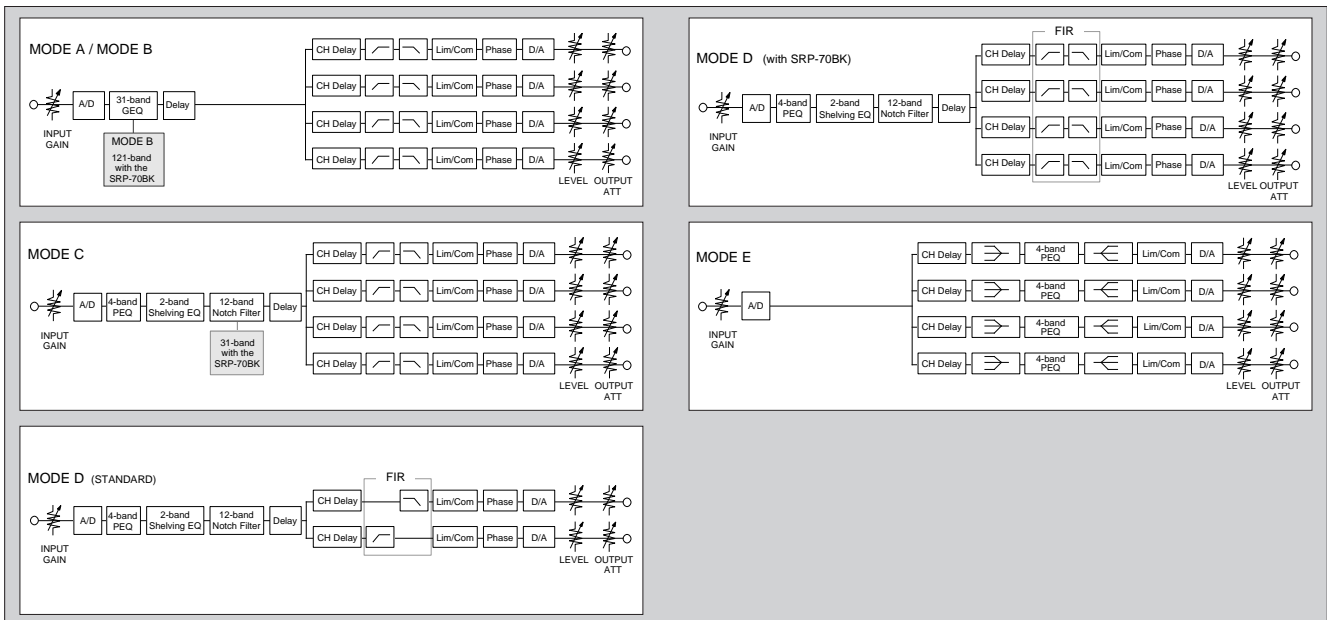


- Dual-channel digital processor for loudspeaker channel dividing or signal distribution
- 96 kHz sampling frequency and 20-bit linear AD/DA
- 4-mode for channel dividing and 1 mode for distribution
- Variable crossover frequency with three filter types and slopes for mode B and C
- Horn equalization by high frequency shelving filter
- Channel delay for loudspeaker time alignment
- Up to 20 programs can be memorized for each mode



SRP-F700 Rear Panel

## Algorithms



## Specifications

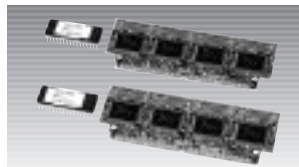
Analog Input:	XLR-3-31 type, +4 dBu Ref. level, +24 dBu Max. level, more than 10 kΩ Input impedance
Input Gain Control Range:	0 to +15 dB (in 3 dB steps)
Analog Output:	XLR-3-32 type, +4 dBu Ref.level, +24 dBu Max.level, Less than 100 Ω Output impedance (More than 600 Ω Load impedance)
Analog Stacking:	XLR-3-32 type
A/D D/A Conversion:	20-bit linear, 96 kHz sampling frequency
Number of Basic Modes:	5
Frequency Response:	20 Hz to 20 kHz ±0.5 dB (THRU output) 10 Hz to 40 kHz +0.5/-3 dB (THRU output)
Dynamic Range:	More than 96 dB (IHF-A against digital full scale, less than 20 kHz)
Minimum Signal Delay Time:	450 μs (with Mode A,B,C and E) 3 μsec (with Mode D)
Remote Connectors:	MIDI IN/THRU Parallel remote (D-sub 25-pin, female, mm screws) RS-422A (D-sub 9-pin, female, mm screws)
Number of Memories:	100 (20 per each mode)
Power Requirements:	AC 230 V, 50/60 Hz
Dimensions:	482 (W) x 132 (H) x 360 (D)mm (19 x 5 1/5 x 14 1/5 inches)
Mass:	12.5 kg (27 lb 9 oz)

\*Not available in USA

## Optional Accessory

### SRP-70BK

Option board kit



- Band equalizer to 121 bands in Mode B
- Notch filter of Mode C to 31 bands
- 4-way output systems in Mode D

## Digital Audio Processor

**SRP-F300**

- Digital crossover for loudspeaker system and signal distribution for PA system
- 24-bit linear AD/DA convert with 96 kHz sampling
- 11-band PEQ & Compressor or 31-band GEQ, Limiter, X-over & Delay
- Analog 2-CH, AES/EBU inputs and analog 6-CH outputs
- Sampling rate converter of 32-96 kHz for digital input
- Recall, Display and Up/Down buttons on front panel
- RS-232C interfaces for remote control from PC (Control software is supplied)
- Multiple units of SRP-F300 can be connected with RS-232C as daisy chain
- Up to 50 programs can be memorized

**Supplied Accessory**

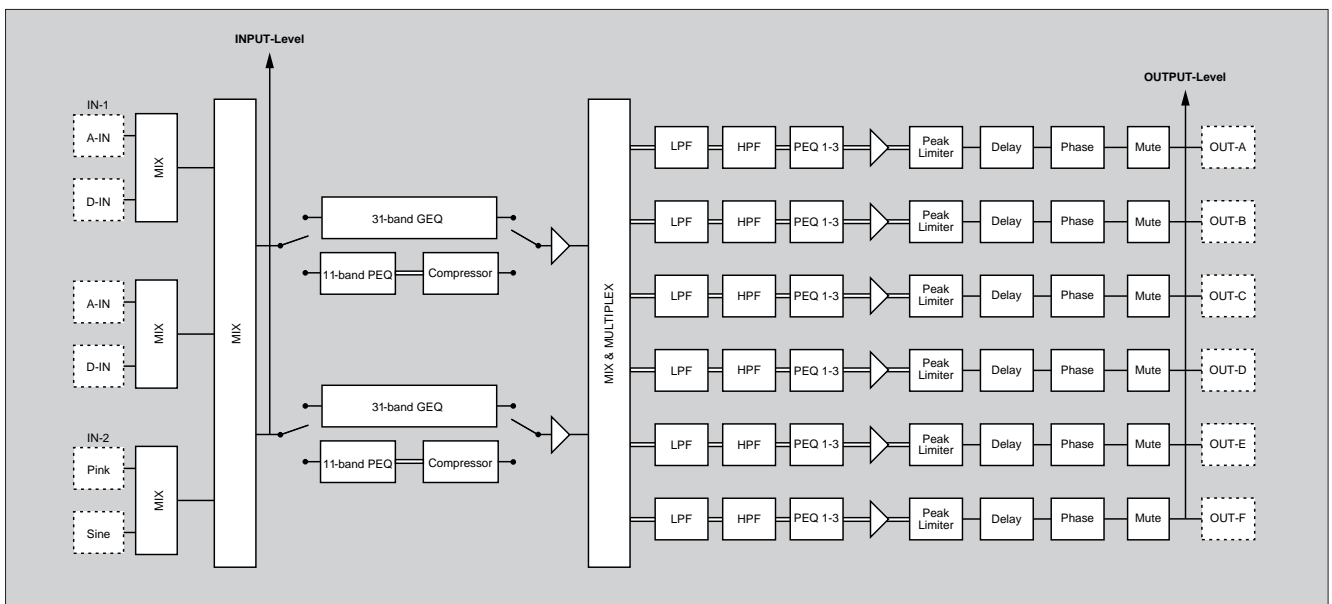
Control software (Floppy Disc) (x 1)



SRP-F300 Rear Panel

**Specifications**

Analog Input:	XLR-3-31 type, +4 dBu Ref.level, +24 dBu Max.level, 10 k $\Omega$ Input impedance
Analog Output:	XLR-3-32 type, +4 dBu Ref.level, +24 dBu Max.level, 47 $\Omega$ Output impedance (More than 600 $\Omega$ Load impedance)
Analog Stacking:	XLR-3-32 type
Digital Input:	XLR-3-31 type, AES/EBU
A/D Conversion:	24-bit linear, 96 kHz sampling frequency
D/A Conversion:	24-bit linear, 96 kHz sampling frequency
Frequency Response:	20 Hz to 20 kHz $\pm$ 0.5 dB 20 Hz to 40 kHz +0.5/-3 dB
T.H.D.:	Less than 0.01%
Dynamic Range:	More than 110 dB
Minimum Signal Delay Time:	880 $\mu$ s
LED Level Meter:	-40, -20, -10, -6, OVER
Remote Connectors:	RS-232C (D-sub 9-pin, male) (2)
Power Requirements:	AC 120V/230V (switchable), AC 120V 50/60 Hz (U.S.A)
Dimensions:	482 (W) x 44 (H) x 360 (D) mm (19 x 1 <sup>3</sup> / <sub>4</sub> x 14 <sup>1</sup> / <sub>5</sub> inches)
Mass:	5.2 kg (11 lb 7 oz)

**Block Diagram**

Digital Equalizer

# SRP-E300\*



- Dual channel digital equalizer of graphic and parametric
- 10-band parametric equalizer and 29-band graphic equalizer operate simultaneously or individually
- Up to four seconds can be provided for Delay function
- Limiter and noise gate functions
- 20-bit linear AD/DA convert with 48 kHz sampling frequency
- Up to 20 programs can be memorized
- Both analog and AES/EBU I/O
- RS-232C interface for external remote operation
- Analog stacking I/O for multiple usage



SRP-E300 Rear Panel

## Specifications

Graphic Equalizer:	29-band, 25 Hz to 16 kHz, 1/3 oct steps Q=4.3/ 7.0/ constant, (switchable)
Parametric Equalizer:	10-band, 20 Hz to 20 kHz, 1/12 oct steps Q=0.31 to 19.4 (37 points)
Analog Input:	XLR-3-31 type, +4 dBu ref. level, +24 dBu max. level, 33 kΩ input impedance
Analog Output:	XLR-3-31 type, +4 dBu ref. level, +24 dBu max. level, more than 600 Ω load impedance
Analog Stacking:	XLR-3-32 type
Digital I/O:	XLR type, AES/EBU format
Digital Through:	XLR-3-32 type
A/D Conversion:	20-bit linear, 48 kHz sampling frequency
D/A Conversion:	20-bit linear, 48 kHz sampling frequency
Frequency Response:	20 Hz to 20 kHz +0/-1 dB
T.H.D.:	Less than 0.01%
Dynamic Range:	More than 105 dB
Remote Connectors:	RS-232C (D-sub 9-pin, male)
Power Requirements:	AC 120V, 230V, 50/60 Hz
Dimensions:	482 (W) x 44 (H) x 350 (D) mm (19 x 1 3/4 x 13 7/8 inches)
Mass:	4.7 kg (10 lb 6 oz)

\*Not available in USA

Digital Limiter/Delay

# SRP-L300\*



- Dual channel digital limiter and delay with three modes for PA/SR and broadcast applications
  - ① Dynamics Mode  
Compressor/Expander/Limiter/Gate/Single Delay
  - ② Limiter Mode
    - Limiter with Soft Clipper without delay
    - Single Delay
  - ③ Tap Delay Mode  
48 taps, max. 400 ms pre-delay
- Up to 20 programs scan be memorized
- Both analog and AES/EBU I/O
- Sample rate converter of 32-48 kHz to 48 kHz for digital input
- RS-232C interface for external remote operation



SRP-L300 Rear Panel

## Specifications

Analog Input:	XLR-3-31 type, +4 dBu ref. level, +24 dBu Max.level, 33 kΩ Input impedance
Analog Output:	XLR-3-32 type, +4 dBu ref. level, +24 dBu Max.level, more than 600 Ω load impedance
Analog Stacking:	XLR-3-32 type
Digital I/O:	XLR type, AES/EBU format
Digital Through:	XLR-3-32 type
A/D Conversion:	20-bit linear, 32,44,1,48 kHz sampling
D/A Conversion:	20-bit linear, 48 kHz sampling
Frequency Response:	20 Hz to 20 kHz +0/-1 dB
THD:	Less than 0.01 %
Dynamic Range:	More than 105 dB
Min. Signal Delay Time:	1.416 ms
Remote Connectors:	RS-232C (D-sub 9-pin, male)
Power Requirements:	AC 120V, 230V, 50/60 Hz
Dimensions:	482 (W) x 44 (H) x 350 (D) mm (19 x 1 3/4 x 13 7/8 inches)
Mass:	4.7 kg (10 lb 6 oz)

\*Not available in USA

## Digital Feedback Reducer

**SRP-FR300\***

- Dual channel digital feedback reducer
- Total 20 digital notch filters per channel for feedback reduction
- 15 filters for static and 5 filters for dynamic
- Manual or automatic setting of filters
- 20-bit linear AD/DA converts with 48 kHz sampling frequency
- 52-bit digital signal processing
- RS-232C interface for external remote operation
- Analog stacking I/O for multiple usage



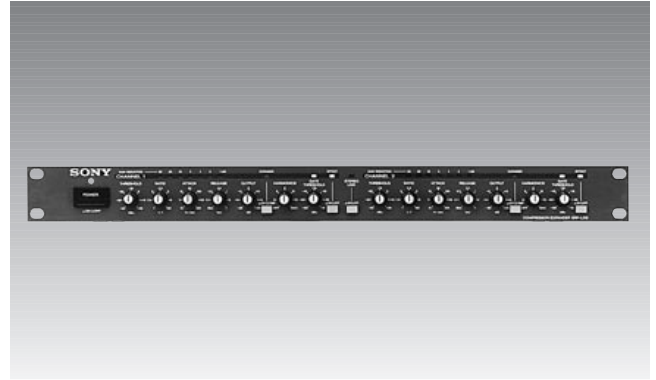
SRP-FR300 Rear Panel

**Specifications**

AD/DA Conversion:	20-bit linear, 48 kHz sampling frequency
Frequency Response:	20 Hz to 20 kHz +0/-1 dB
THD:	Less than 0.01%
Dynamic Range:	More than 105 dB
Min. Signal Delay Time:	1.416 msec
Analog Input:	XLR-3-31 type, +4 dBu Ref. level, +24 dBu Max.level, 33 k $\Omega$ Input impedance
Analog Output:	XLR-3-32 type, +4 dBu Ref. level, +24 dBu Max.level, more than 600 $\Omega$ load impedance
Analog Stacking:	XLR-3-32 type
Remote Connector:	RS-232C (D sub 9-pin, male)
Power Requirements:	AC 120V, 230V 50/60 Hz
Dimensions:	482 (W) x 44 (H) x 350 (D) mm (19 x 1 3/4 x 13 7/8 inches)
Mass:	4.7 kg (10 lb 6 oz)

\*Not available in USA

## Analog Compressor/Expander

**SRP-L210\***

- Dual channel input/output with Link function
- Compressor, Upward expander, Limiter, Gate, Harmonics
- Peak limiter which prevents clipping
- 7-segment GR indicator for each channel
- Soft-knee limiter suitable for sound control



SRP-L210 Rear Panel

**Specifications**

Input			
	Input 1	Input 2	Key Input
Type	XLR-3-31	Phone (balanced)	Phone (unbalanced)
Input Impedance	80 k $\Omega$	80 k $\Omega$	10 k $\Omega$
Reference level	+4 dBu	+4 dBu	-3 dBu
Max. level	+24 dBu	+24 dBu	+17 dBu

Output			
	Output 1	Output 2	Key Output
Type	XLR-3-32	Phone (balanced)	Phone (unbalanced)
Impedance	240 $\Omega$	240 $\Omega$	120 $\Omega$
Reference level	+4 dBu	+4 dBu	-3 dBu
Max. level	+24 dBu	+24 dBu	+17dBu
Load impedance	More than 10 k $\Omega$	More than 10 k $\Omega$	—

Frequency Response:	20 Hz to 20 kHz (+0.5/-1.0 dB)
T.H.D.:	Less than 0.05% (Reference input level, 1 kHz)
S/N Ratio:	More than 94 dB (Effect on)
Threshold:	-40 dBu to +20 dBu
Compression Ratio:	1:1 to $\infty$ :1
Attack Time:	0.1 to 200 ms
Release Time:	50 ms to 4 s
Gate Threshold:	$-\infty$ to -10 dBu
Power Requirements:	AC 120V**, 230V, 50/60 Hz
Dimension :	482 (W) x 44 (H) x 175 (D) mm (19 x 1 3/4 x 7 inches)
Mass:	2.8 kg (6 lb 3 oz)

\*Not available in USA

\*\*AC 120V is provided with Canadian 3-pin plug

Signal Processor

# SRP-C3000\*



- Monaural signal processor for SRP-S3000/B3000 speaker systems
- Crossover function for bi-amped drive of SRP-S3000 or tri-amped drive of SRP-S3000 and SRP-B3000
- 5-point LED meter for monitoring sensing input level
- NEUTRIK NL4MP for speaker output



SRP-C3000 Rear Panel

## Specifications

Analog Input:	XLR-3-31 type, +4 dBu ref. level, +24 dBu max. level, 10 Ω input impedance
Analog Output:	XLR-3-32 type, +4 dBu (LF) ref. level, +24 dBu max. level, more than 600 Ω load impedance
Sensing Input Connector:	Screw type
Speaker Output Connector:	NEUTRIK NL4MP(1)
Trouble Status Output Terminal:	3p terminal
Residual Noise Level:	Less than -107 dBu
Dynamic Range:	118 dB
T.H.D.:	Less than 0.005%
Power Requirements:	AC 230 V, 50/60 Hz
Dimensions:	482 (W) x 44 (H) x 175 (D) mm (19 x 1 3/4 x 6 7/8 inches)
Mass:	3 kg (6 lb 10 oz)

\*Not available in USA

Signal Processor

# SRP-C1000\*



- Dual channel signal processor for SRP-S1000/S900 Speaker System
- Mono-mixed output for subwoofer SRP-B900
- LF/HF equalization for sound enhancement
- Limiting function for preventing speaker damage
- Five different low frequency equalizers for various size woofers



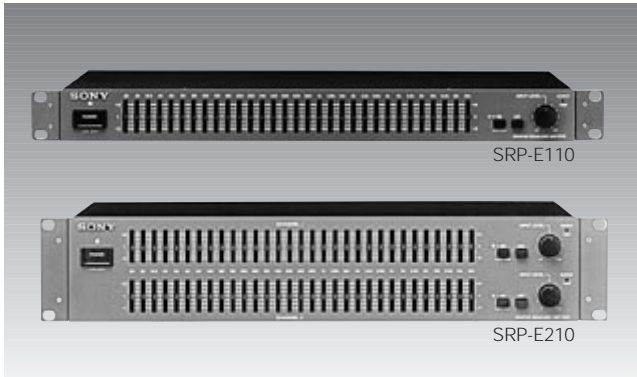
SRP-C1000 Rear Panel

## Specifications

Analog Input:	XLR-3-31 type (balanced), Phone jack (balanced), +4 dBu ref. level, +24 dBu max. level
Sensing Input Connector:	Screw type
Analog Output:	XLR-3-32 type (balanced), +4 dBu, max. +24 dBu
Residual Noise Level:	Less than -96 dBu
Dynamic Range:	More than 120 dB
S/N Ratio:	More than 100 dB
T.H.D.:	Less than 0.005%
Low Frequency EQ (5-mode):	±12 dB (MIDI ±3 dB for MODE B and D)
Equalizer:	Low frequency 5mode (Mode 1: SRP-S1000/S900, Mode 2: Speech, Mode 3: SRP-S720, Mode 4: SRP-S520, Mode 5: SRP-S420)
	High frequency 16 kHz
Power Requirements:	AC 120 V, 230 V, 50/60 Hz
Dimensions:	482 (W) x 44 (H) x 175 (D) mm (19 x 1 3/4 x 6 7/8 inches)
Mass:	3 kg (6 lb 10 oz)

\*Not available in USA

## Graphic Equalizer

**SRP-E110\*/210\***
**SRP-E110 Monaural**  
**SRP-E210 Dual channel**

- 31-band,  $1/3$  octave equalizer for the frequency range between 20 Hz and 20 kHz
- Low harmonic distortion less than 0.02% and S/N ratio of 100 dB
- Adjustable input gain (-10 dB to +10 dB)
- Output indicator and low cut filter



SRP-E110 Rear Panel



SRP-E210 Rear Panel

## Specifications

Input		
	Balanced	Unbalanced
Type	XLR-3-31	Phono
Impedance	10 k $\Omega$	
Reference Level	+4 dBu, -10 dBu	-10 dBu
Max. Level	+20 dBu, +6 dBu	+6 dBu
Adjustable Range	$\pm 10$ dB (for the reference input)	

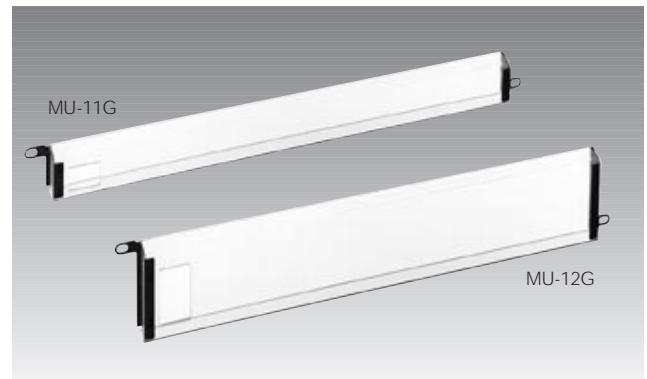
Output		
	Balanced	Unbalanced
Type	XLR-3-32	Phono
Impedance	100 k $\Omega$	470 $\Omega$
Reference Level	+4 dBu, -10 dBu	-10 dBu
Max. Level	+20 dBu, +6 dBu	+6 dBu
Load Impedance	More than 600 $\Omega$	More than 10 k $\Omega$

Equalizer:	31 bands, $1/3$ octave band (20 Hz-20 kHz)
Q:	fixed to 4.3
Frequency Response:	20 Hz to 20 kHz
T.H.D.:	Less than 0.02% (EQ flat, LCF off)
Dynamic Range:	116 dB
Low Cut Filter:	fc=35 Hz, -12 dB/oct
Power Requirements:	AC 120V, 230V, 50/60 Hz
Dimensions:	SRP-E110: 482 (W) x 44 (H) x 175 (D) mm (19 x 1 $3/4$ x 7 inches) SRP-E210: 482 (W) x 88 (H) x 175 (D) mm (19 x 3 $1/2$ x 7 inches)
Mass:	SRP-E110: 3 kg (6 lb 10 oz), SRP-E210: 4 kg (8 lb 13 oz)

## Optional Accessories

### MU-11G/12G

Front Guard



- Clear panels which prevent accidental operation of controls

## Specifications

	MU-11G (1U high)	MU-12G (2U high)
Dimensions	480 (W) x 43 (H) x 22 (D) mm (18 $7/8$ x 1 $3/5$ x $7/8$ inches)	480 (W) x 87 (H) x 22 (D) mm (18 $7/8$ x 3 $2/5$ x $7/8$ inches)
Mass	0.1 kg (0 lb 4 oz)	0.2 kg (0 lb 7 oz)



# SECTION 10

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## Digital System Integration Equipment

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Digital Audio Routing Switcher

# DVS-A3232



- Provides 32 x 32 stereo or 16 x 16 four channel audio signal connection to or from other digital equipment
- Cascade connection of up to 8 DVS-A3232 units for up to 256 x 256 routing application
- Conforms to AES/EBU format at 48 kHz sampling frequency
- Low-noise switching
- Sony serial-bus control for integration into digital video routing system based on DVS-V3232B/V1616 digital video routing switchers
- Controlled completely from either BKS-R3202 X-Y control unit or BKS-R3203/BKS-R1601 source control unit for use with DVS-V3232B/DVS-V1616

**Supplied Accessories**

- AC power cord (x 1)
- 19-inch rack mount adaptor (x 1)
- 75 Ω termination (x 4)
- BNC T bridge (x 1)
- Plug holder (x 1)



DVS-A3232 Rear Panel

## Optional Accessories

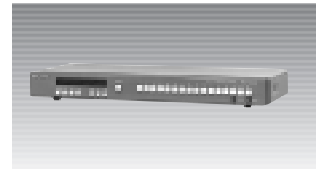
**BAC-1200**

Control Terminal



**BKS-R3202**

X-Y Control Unit



**BKDS-A3220**

Cascade Set

**BKDS-A3290**

Back-up Control Board

**BKDS-A3291**

Back-up Power Supply

**RMM-30**

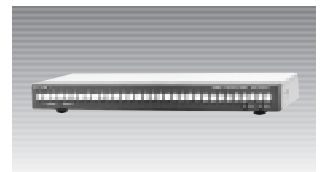
Rack Mount Rail

**ECD-3C/10C**

Digital Audio Cable

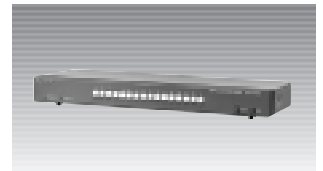
**BKS-R3203**

32 Source Control Unit



**BKS-R1601**

16 Source Control Unit



Digital Audio Selector

# DVS-A1201



- 12 input x 1 output stereo digital audio selector
- Conforms to AES/EBU format at 48 kHz sampling frequency
- Interfaces with DVS-V1201 digital video switcher via D-sub 25-pin connector
- Controlled completely from BKS-R1210 remote control unit for use with DVS-V1201
- Two DVS-A1201 units can be connected to each other using supplied harness with D-sub 25-pin connectors for 4-channel audio operation with D-1 or D-2 VTRs
- Low noise switching
- Crosspoint status back-up for 24 hours

**Supplied Accessories**

- AC power cord (x 3)
- Plug holder (x 1)
- 75 Ω termination (x 1)
- D-sub 25-pin unit harness (x 1)



DVS-A1201 Rear Panel

## Optional Accessories

**BKS-R1210**

Remote Control Unit



**RMM-30**

Rack Mount Rail

**ECD-3C/10C**

Digital Audio Cable

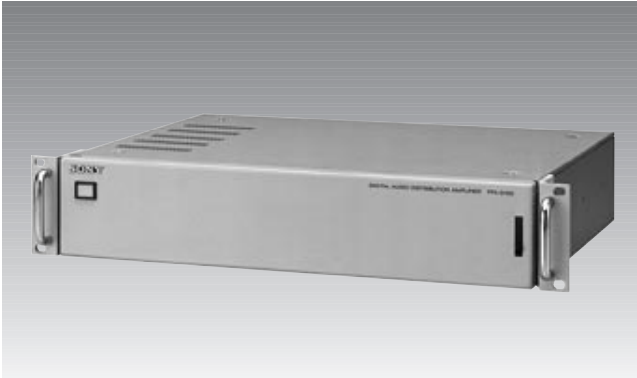
## Specifications

	DVS-A3232	DVS-A1201
<b>Inputs/Outputs</b>		
Digital IN	AES/EBU XLR-3-31 type (x 32)	AES/EBU XLR-3-31 type (x 12)
Digital OUT	AES/EBU XLR-3-32 type (x 32)	AES/EBU XLR-3-32 type (x 2)
Cascade IN	68-pin half-pitch RS-422 (x 7)*	—
Cascade OUT	68-pin half-pitch RS-422 (x 7)*	—
Buffered OUT	—	AES/EBU XLR-3-32 type (x 12)
Reference Video IN	Composite video/Composite sync (BNC (x 2), loop-through)	
Reference Audio IN	AES/EBU XLR-3-31 type (x 1)	
REMOTE 1	BNC type (x 4) Serial Bus	D-sub 9-pin RS-422
REMOTE 2	D-sub 9-pin, RS-422 (x 2)	D-sub 9-pin, RS-422 (x 1)
REMOTE 3	D-sub 25-pin, RS-232C	
Tally OUT	—	D-sub 15-pin
<b>General</b>		
Power Requirements	AC 100 to 120 V (JN) AC 220 to 240 V (CED), 50/60 Hz	AC 100 to 240 V 50/60 Hz
Power Consumption	80 W	15 W
Dimensions (W x H x D)	424 x 310 x 450 mm (16 3/4 x 12 1/4 x 17 3/4 inches)	424 x 88 x 350 mm (16 3/4 x 3 1/2 x 13 7/8 inches)
Mass	20.0 kg (44 lb 1 oz)	7.0 kg (15 lb 7 oz)

\*Seven BKDS-A3220 are required.

Digital Audio Distribution Amplifier

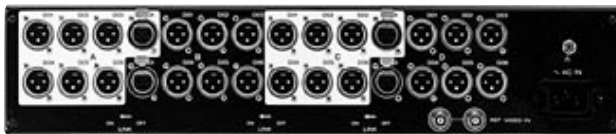
# PFA-D100



- Conforms to the AES/EBU format, with 48 kHz sampling frequency for direct interfacing with D-1, D-2 and Digital BETACAM VTRs
- Contains four distribution blocks, each with one stereo input x 6 stereo outputs
- Flexible distribution: 4 blocks of 1 stereo IN x 6 stereo OUT; two blocks of 1 stereo IN x 12 stereo OUT; one block of 1 stereo IN x 24 stereo OUT; two blocks of 1 stereo IN x 6 stereo OUT plus one block of 1 stereo IN x 12 stereo OUT; and one block of 1 stereo IN x 18 stereo OUT plus one block of 1 stereo IN x 6 stereo OUT
- Outputs AES/EBU signals locked to input video (NTSC or PAL) reference or AES/EBU (D-1) sync signal
- Dual AC inlets for power back-up system
- 19-inch rack mountable with supplied rack mount adaptor

### Supplied Accessories

- AC power cord (x 3)
- Rack mount adaptor (x 1)
- 75 Ω termination (x 1)
- Plug holder (x 1)



PFA-D100 Rear Panel

## Specifications

### Inputs/Outputs

Digital IN:	AES/EBU, XLR-3-31 type (x 4)*
Digital OUT:	AES/EBU, XLR-3-32 type (x 24)
Sync IN:	AES/EBU, XLR-3-31 type (x 1)
Reference Video IN:	Composite video or composite sync selectable, 75 Ω terminated, BNC, loop-through

### General

Power Requirements:	AC 100 to 120 V/220 to 240 V, 50/60 Hz
Power Consumption:	18 W
Dimensions:	424 (W) x 88 (H) x 350 (D) mm (16 3/4 x 3 1/2 x 13 7/8 inches)
Mass:	7 kg (15 lb 7 oz)

\* One of the digital input signals, which is selected with the internal switch, is used as reference audio signal.

## Optional Accessories

### BKPF-A100

Back-up Power Supply

### RMM-30

Rack Mount Rail

### ECD-3C/10C

Digital Audio Cable

Digital Audio Converter Unit

# DAF-1500



- Holds up to eight of the following, easily installed, optional boards in any combination:
    - DABK-1511 A/D Converter Board
    - DABK-1512 D/A Converter Board
    - DABK-1514 Sampling Rate Converter Board
    - DABK-1515 Word Sync Distribution Board
  - DABK-1513 ID Inserter Board option adds source/destination information to the AES/EBU output signals
  - 3 unit high, 19-inch EIA standard, rack mountable frame
- \* Word clock and AES/EBU DI sync board fitted as standard, but this can be replaced by an optional DABK-1510 Video Sync board.

SECTION 10



DAF-1500 Rear Panel with DABK-1510/1511/1512/1513/1514/1515

## Optional Accessories

### DABK-1510

Video Sync Board

### DABK-1514

Sampling Rate Converter Board

### DABK-1511

A/D Converter Board

### DABK-1515

Word Sync Distribution Board

### DABK-1512

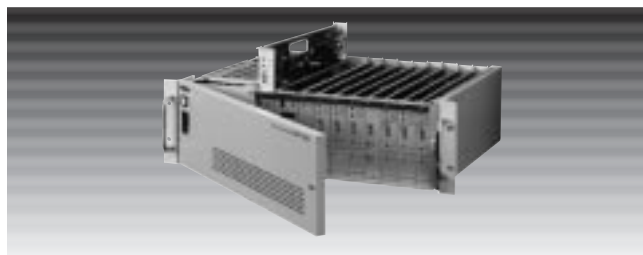
D/A Converter Board

### DABK-1517

Back-up Power Supply Unit

### DABK-1513

ID Inserter Board



## Specifications

### General

Dimensions:	424 (W) x 133 (H) x 350 (D) mm (16 3/4 x 5 1/4 x 13 7/8 inches)
Mass:	11.5 kg (25 lb 7 oz) max.
Power Requirements:	AC 100 to 240 V, 50/60 Hz
Power Consumption:	AC 150 VA max.

### Inputs/Outputs

Analog Input (DABK-1511):	2-ch, +4 dBu (+24 dBu max.), adjustable from -10 dBu to +8 dBu, 10 kΩ or 600 Ω, balanced XLR-3-31 type (x 2)
Analog Output (DABK-1512):	2-ch, +4 dBu (+24 dBu max.), adjustable range from -10 dBu to +8 dBu, less than 50 Ω, balanced, XLR-3-32 type (x 2)
Digital Input (DABK-1512):	2-ch, AES/EBU, XLR-3-31 type (x 1)
Digital Output (DABK-1511):	2-ch, AES/EBU, XLR-3-32 type (x 1)

### Reference Signals

Word Sync:	TTL compatible, 75 Ω BNC, loop-through
AES/EBU Sync:	XLR-3-31 type/XLR-3-32 type, buffered through
Reference Video (DABK-1510):	Black burst/composite sync/composite video (525/59.94, 625/50, 525/60), BNC loop-through, switchable 75 Ω termination

### Audio Performance

#### DAF-1500 Digital Audio Frame

Quantization:	20 bits/sample
Frequency Response:	20 Hz to 20 kHz +0.2 dB/-0.3 dB
Total Harmonic Distortion:	Less than 0.03% at 1 kHz
Signal-to-noise Ratio:	More than 100 dB at max. input level
Crosstalk:	Less than -90 dB at 1 kHz
Emphasis:	50 μs/15 μs (ON/OFF selectable)
Sampling Frequency:	48 kHz, 47.952 kHz, 44.1 kHz or 44.056 kHz selectable

#### DABK-1514 Sampling Rate Converter Board

Digital Inputs:	2-ch, AES/EBU, XLR-3-31 type (x 1) with transformer 2-ch, IEC-958, RCA-pin type (x 1), without transformer
Digital Output:	2-ch, AES/EBU, XLR-3-32 type (x 1) with transformer
Frequency Response:	20 Hz to 20 kHz, +0.2/-0.3 dB
Input Sampling Frequency:	22.03 kHz to 64 kHz
Total Harmonic Distortion:	Less than 0.02%
Dynamic Range:	More than 100 dB (AES/EBU I/O, 20-bit sampling)
Processing Time:	Approx. 3 ms (long mode) Approx. 700 μs (short mode)

#### DABK-1515 Word Sync Distribution Board

Sampling Frequency:	44.056 kHz, 44.1 kHz, 47.952 kHz or 48 kHz
Output Level:	TTL compatible

#### DABK-1517 Back-up Power Supply Unit

Dimensions:	424 (W) x 44 (H) x 250 (D) mm (16 3/4 x 1 3/4 x 9 7/8 inches)
Mass:	5 kg (11 lb)
Power Requirements:	AC 100 to 240V, 50/60 Hz
Power Consumption:	AC 200 VA

AD/DA Converter

# SRP-DC5\*



- Dual channel A/D and D/A converter
- 24-bit linear A/D conversion with 44.1/48 kHz sampling frequency
- 20-bit linear D/A conversion with 48 kHz sampling frequency
- Digital I/O interfaces for both AES/EBU and Coaxial (IEC958)
- External word clock I/O terminal
- 20-segment LED level meter display for A/D or D/A
- Sampling rate converter for D/A input excluding jitter

**Supplied Accessory**

Plug adaptor (Suits for 120V AC outlet) (x 1)



SRP-DC5 Rear Panel

## Specifications

### A/D Conversion

Quantization	24-bit linear, 44.1 kHz, 48 kHz sampling frequency
External Sync:	Digital input or external word clock (selectable)
Frequency Response:	20 Hz to 20 kHz +0/-0.5 dB
S/N Ratio:	More than 113 dB (24-bit, 48 kHz sampling, A-weighted) More than 110 dB (20-bit, 48 kHz sampling, A-weighted)
THD:	Less than 0.005%
Analog Input:	XLR type, +4 dBu, max. +24dBu, 20 kΩ balanced
Digital Output:	XLR type, AES/EBU format (x 1), phono, Coaxial (IEC 958) (x 1) 16/20/24-bit word length

### D/A Conversion

Quantization	20-bit linear, 48 kHz sampling frequency
Frequency Response:	20 Hz to 20 kHz +0/-0.5 dB
S/N Ratio:	Less than 118 dB (A-weighted)
T.H.D.:	Less than 0.008%
Digital Input:	XLR type, AES/EBU format (x 1), phono, Coaxial (IEC 958) (x 1) 16-24 bit word length
Analog Output:	XLR type, max. +24dBu, more than 600 Ω

### General

Conversion Delay Time:	2 ms, analog input to analog output, 48 kHz sampling frequency
Power Requirements:	AC 120V-230V (Automatically selected)
Dimensions:	482 (W) x 44 (H) x 350 (D) mm (19 x 1 3/4 x 13 7/8 inches)
Mass:	6 kg (13 lb 4 oz)

\*Not available in USA

# SECTION 11

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## Audio Mixers and Consoles

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## Digital Mixing Console

**OXF-R3**

- Fully digital audio console for multitrack music and post production
  - 120 inputs for mix down
  - Configurable I/O system
- Exemplary processing quality
  - 32/64-bit fixed point internal processing
  - 24-bit digital I/O
  - High quality converter technology
- Compact control surface
  - Twin left and right channels sections either side of a central control area
  - 65 high reliability linear motor faders
  - Large comprehensive assignable channel control panel areas
  - Seven large color TFT display screens
  - Unique knob and switch status displays
- Comprehensive audio processing
  - 5 band fully parametric EQ per channel with GUI
  - Comprehensive compressor/limiter/expander/gate dynamics per channel with GUI
  - 16 AUX sends
  - 48 track multitrack routing
  - 8 stereo sub-groups
- Surround sound processing
  - Supports LCRS, 5.1 and SDDS
- Fully integrated session management
  - Dynamic and static automation
  - Machine control of up to 4 machines
  - Management for projects, titles, mixes, snapshots, cues and notes
- Simple installation
  - Remote I/O racks
  - Central processor rack
  - Direct interface to DASH multitrack via MADI
- Control surface options
  - 24C24 (L & R channels sections and central control)
  - 24C0 (L channels section and central control)

**Specifications**

Power Requirements:	AC 100 to 240 V, 50/60 Hz
Power Consumption	
Control surface:	1 kW
Processor:	750 W
I/O unit:	240 W
Dimensions (W x H x D)	
Control surface	
24C24 (OXF-CP3048):	2516 x 1046 x 1216 mm (99 1/8 x 41 1/4 x 47 7/8 inches)
24C0 (OXF-CP3024):	1620 x 1046 x 1216 mm (63 7/8 x 41 1/4 x 47 7/8 inches)
Processor:	482 x 674 x 604 mm (19 x 26 5/8 x 23 7/8 inches)
I/O unit:	482 x 334 x 495 mm (19 x 13 1/4 x 19 1/2 inches)
Producer's desk*:	576 x 860 x 1192 mm (22 3/4 x 33 7/8 x 47 inches)
Speaker stand*:	400 x 1074 x 400 mm (15 3/4 x 42 3/8 x 15 3/4 inches)
Mass	
Control surface	
24C24 (OXF-CP3048):	382 kg (842 lb 3 oz) w/stand
24C0 (OXF-CP3024):	221 kg (487 lb 4 oz) w/stand
Processor:	60 kg (132 lb 4 oz)
I/O unit:	25 kg (55 lb 2 oz)
Producer's desk*:	55 kg (121 lb 4 oz)
Speaker stand*:	11 kg (24 lb 4 oz)

\*Producer's desk and speaker stand are optional Both are sold in pairs (L/R) and the above dimensions and mass are for one of each pair.

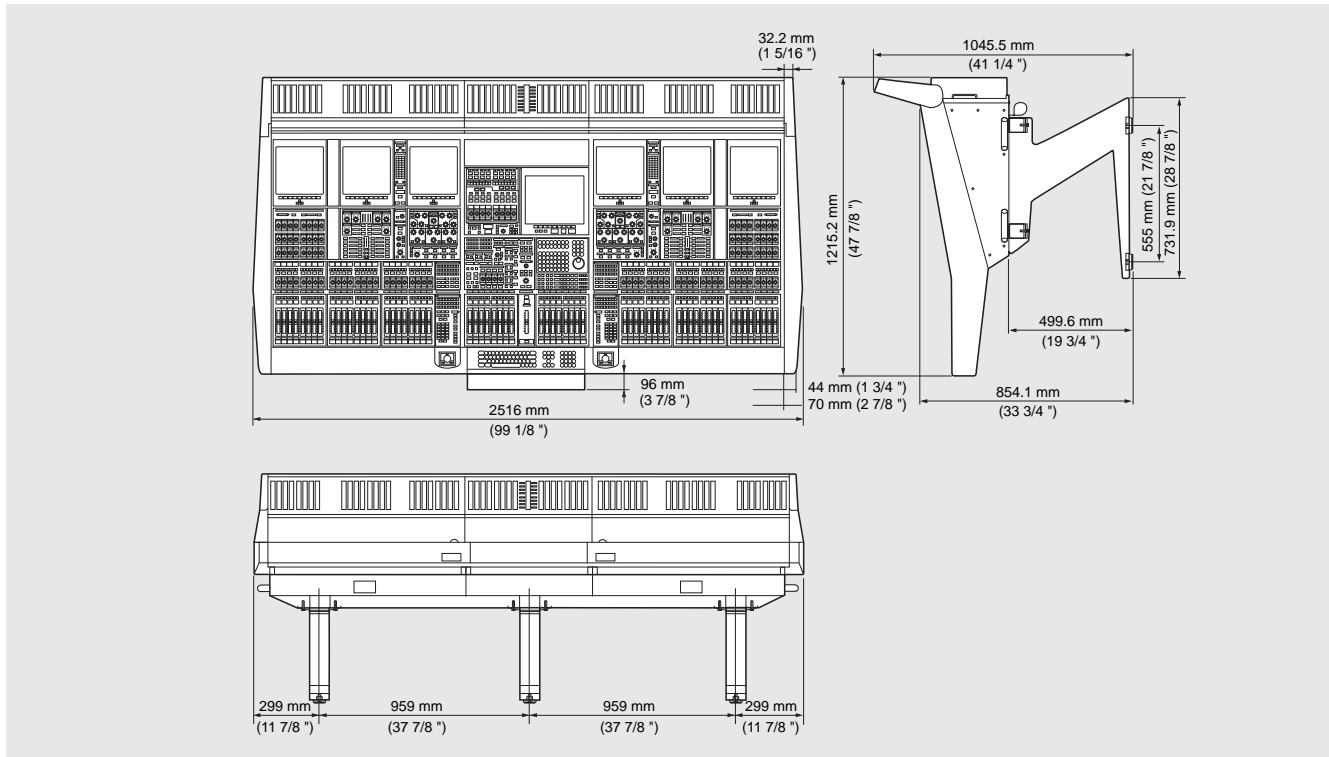
**System Configuration**

Model	Description
<b>OXF-R3</b>	Digital Audio Mixing Console
<b>DMSK-R3096</b>	Digital Console Software
<b>DMSK-R3001</b>	GML EQ/Dynamics Emulation Software
<b>OXF-CP3048</b>	Control Panel (24C24)
<b>OXF-CP3024</b>	Control Panel (24C0)
<b>OXF-SP3000</b>	SP Rack
<b>OXF-IO3000</b>	I/O Rack
<b>DMBK-R3001</b>	Mic/Line A/D Converter
<b>DMBK-R3002</b>	Monitor D/A Converter
<b>DMBK-R3003</b>	Line A/D Converter
<b>DMBK-R3004</b>	Line D/A Converter
<b>DMBK-R3005</b>	SP Board
<b>DMBK-R3006</b>	SP Link Board
<b>DMBK-R3008</b>	AES/EBU D I/O Board
<b>DMBK-R3009</b>	Time Code Board
<b>DMBK-R3010</b>	GPI Control Board
<b>DMBK-R3011</b>	Producer's Desk
<b>DMBK-R3012</b>	Speaker Stand



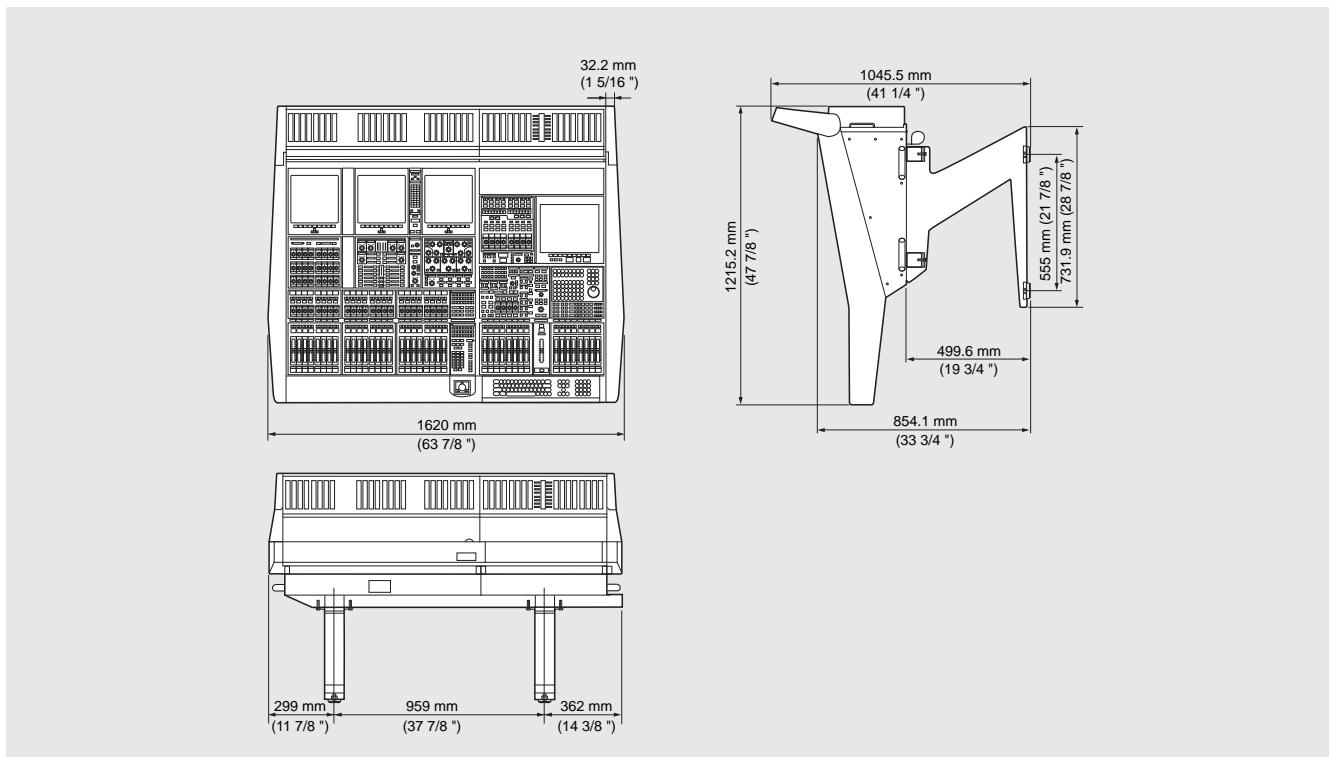
## Dimensions

### 24C24 (OXF-CP3048) Control Panel



SECTION 11

### 24C0 (OXF-CP3024) Control Panel



Digital Audio Mixer

## DMX-B4000 Series

### DMX-B4008A



- Full, 32-bit digital processing
- 24-bit output signal resolution
- Sampling frequency selectable to 44.056 kHz, 44.1 kHz or 48 kHz
- Input routing switcher for 30 AES/EBU inputs to 8 faders
- Flexible output configuration
  - 2-channel Program output
  - Eight mono or four stereo assignable mix outputs
- Snapshot automation, with built-in 3.5-inch disk drive
- Operator-friendly touch screen for assignable functions
- Console functions can be set at three different access levels to match their availability to the operator's skills
- Comprehensive dynamics
  - Limiter/compressor on Program and Mix outputs
- 3-band EQ and high/low-cut filters on each input channel
- Phase inversion
- Two digital insert sends/returns, assignable to any channel
- Fader and button start/stop function linked to input routing switcher
- Self diagnostic function
- Back-up power supply options

### DMX-B4016



#### Supplied Accessories

- AC power cord (2 types x 1)
- Control cable (10 m): control panel/processor rack (x 1)
- Control cable (1 m): control panel/meter unit (x 1)
- Audio cable (10 m): control panel/processor rack (x 1)
- BNC cable (10 m): control panel/processor rack (x 1)
- XLR connecting cable (1 m): control panel/meter unit (x 1)
- Operation and maintenance manual (x 1)
- Meter housing installation kit (x 1)
- Video reference terminator (x 1)

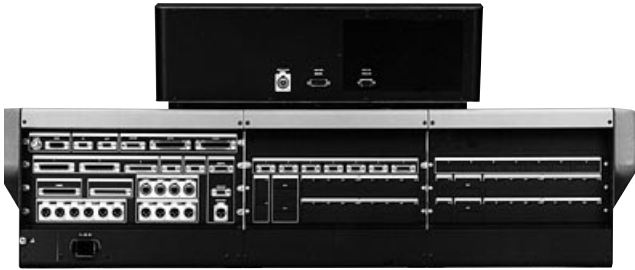
#### Optional Accessories

Model	Description
DMBK-4001	Machine Controller
DMBK-4002	Mixer Stand
DMBK-4003	VU Meter Panel
DMBK-4004	Blank Frame
DMBK-4005	Table Kit for DMX-B4008A
DMBK-4006	Table Kit for DMX-B4016
DMBK-4008	Back-up Power Supply Unit for DMX-B4000 Series Processor Unit
DMBK-4009	Back-up Power Supply Unit for DMX-B4000 Series Control Panel
DMBK-4010	Input Extension Kit for DMX-B4016
DMBK-4011	Group Extension Kit for DMX-B4000 Series
DMBK-4012	20-bit A/D Microphone/Line Input Module
DMBK-4013	Input Extension Kit for DMX-B4008A

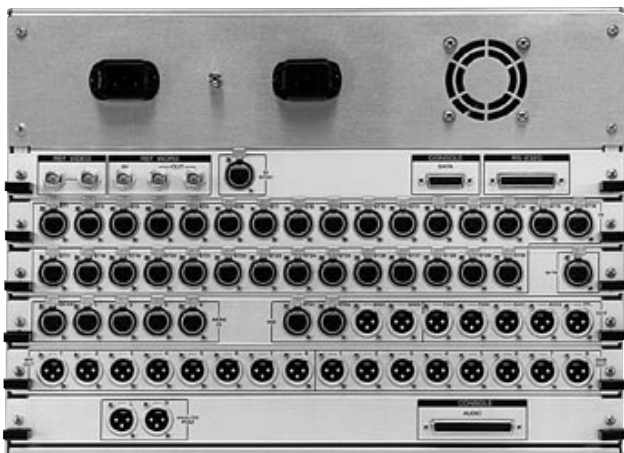
◆ *Audio Mixers and Consoles*



*DMX-B4008A Rear Panel (Controller)*



*DMX-B4016 Rear Panel (Controller)*



*DMX-B4008A/B4016 Rear Panel (Processor)*

## Specifications

		DMX-B4008A	DMX-B4016
Inputs		DIGITAL IN (AES/EBU, 30 stereo) MONITOR IN (AES/EBU, 5 stereo) INSERTION RETURN (AES/EBU, 2 stereo) ID/TB (AES/EBU, 1 stereo) SURROUND MONITOR (4-ch) TALK BACK (1-ch) INTERCOM (2-ch) VIDEO SYNC IN WORD SYNC IN D-I SYNC MIC/LINE (up to 8-ch w/DMBK-4012)	
Input Connectors	DIGITAL IN MIC/LINE INSERTION MONITOR SURROUND TALK BACK INTERCOM VIDEO SYNC WORD SYNC D-I SYNC	XLR-3-31 type XLR-3-31 type XLR-3-31 type XLR-3-31 type XLR-3-31 type D-sub 50-pin D-sub 50-pin BNC BNC XLR-3-31 type	
Remote I/F	GPI Serial Remote SCENE MUTE FADER	D-sub 50-pin, D-sub 25-pin D-sub 9-pin D-sub 15-pin D-sub 50-pin D-sub 50-pin	
Sampling Frequency		44.056 kHz, 44.1 kHz, 48 kHz	
Frequency Response		20 Hz to 20 kHz +0.2 dB/-1.0 dB	
Harmonic Distortion		Less than 0.1%	
Crosstalk		More than 60 dB (20 Hz to 20 kHz)	
Dynamic Range		More than 100 dB	
Built-in Oscillator		1 kHz	
Equalizer	High Frequency Mid Frequency Low Frequency	1 to 16 kHz, ±15 dB, shelving, Q=0.7 fixed 220 Hz to 3.3 kHz, ±15 dB, Q=2 fixed peaking 21 to 330 Hz, ±15 dB, shelving, Q=0.7 fixed	
Filter	Low Cut Filter High Cut Filter	120 Hz, 12 dB/oct 8 kHz, 12 dB/oct	
Metering		101-segment LED bargraphs w/peak hold	
Outputs		PGM OUT (AES/EBU, 1 stereo x 2), (Analog, 2-ch) AUX SEND (AES/EBU, 2 stereo) PFL (AES/EBU, 1 stereo) INSERTION (AES/EBU, 2 stereo) MIX (AES/EBU 4 stereo or 8 mono, 8 stereo w/DMBK-4011) DUBBING (AES/EBU, 8-ch) MAIN MONITOR (2-ch) ALT MONITOR (2-ch) SURROUND MONITOR (C,S 2-ch) STUDIO MONITOR (2-ch) STUDIO HEADPHONES (2-ch) TALK BACK (1-ch x 3) VIDEO SYNC OUT (loop-through) WORD SYNC OUT (loop-through)	
Output Connectors	PGM OUT AUX SEND PFL INSERTION RETURN MIX MAIN MONITOR ALT MONITOR SURROUND MONITOR STUDIO MONITOR STUDIO HEADPHONES TALK BACK VIDEO SYNC WORD SYNC D-I SYNC	XLR-3-32 type XLR-3-32 type XLR-3-32 type XLR-3-32 type XLR-3-32 type XLR-3-32 type XLR-3-32 type XLR-3-32 type XLR-3-32 type XLR-3-32 type Phone type XLR-3-32 type BNC BNC XLR-3-32 type	
Power Requirements		AC 100/120/220/240 V, 50/60 Hz	
Power Consumption		Controller: 170 W Processor: 220 W	Controller: 210 W Processor: 220 W
Dimensions (W x H x D)		Controller: 682 x 330 x 710 mm (26 7/8 x 13 x 28 inches) Processor: 424 x 310 x 500 mm (16 3/4 x 12 1/4 x 19 3/4 inches)	Controller: 990 x 330 x 710 mm (39 x 13 x 28 inches) Processor: 424 x 310 x 500 mm mm (16 3/4 x 12 1/4 x 19 3/4 inches)
Mass		Controller: 50 kg (110 lb 4 oz) Processor: 28 kg (61 lb 12 oz)	Controller: 72 kg (158 lb 12 oz) Processor: 28 kg (61 lb 12 oz)

Digital Audio Mixer

# DMX-R100



- Fully digital audio recording mixer suitable for audio production facilities
  - 48 full channels and 8 AUX returns
  - "Baby R3"
  - Professional quality
  - Look-and-feel operation
  - Fast and extremely easy operation
- High quality sound processing
  - 2 Fs (88.1/96 kHz) sampling frequency can be selectable
  - 24-bit digital I/O and 24-bit A/D, D/A converter
- Surround sound processing
  - 5.1 surround
  - Monitor output for 5.1 surround
  - Surround panning via touch screen
- Look-and-feel operation with colored SVGA LCD and touch panel
  - 800 x 600 colored touch screen
  - EQ/Dyn setting by pattern recognition
  - Smooth operation fader with 10-bit resolution
- Snapshot and dynamic automation for professional use
  - 99 scenes of snapshot automation
  - SMPTE/EBU or MTC for time reference
  - Automation for Fader, Pan, EQ and AUX
  - Touch sensitive moving fader
  - Timecode linking to scenes
- Inputs/outputs
  - 48 full channels and 8 AUX returns
  - 24 analog inputs
  - Combination jacks (XLR/TRS) for LINE input
  - EQ/Dyn for PGM, AUX and MTR outputs
  - 4 option slots for digital I/O (AES/EBU, adat, and TDIF)
- Video/Word sync as standard
- Serial remote by Sony 9-pin protocol
- Channel strip design with definable pan pot
- Extremely silent operation (no fan motor equipped)
- Cascade connection for 96 channels mixer (future option)



DMX-R100 Rear Panel

## Specifications

### Inputs/Outputs

<b>Digital Input</b>	
AUX Return (2 stereo, 4 ch):	AES/EBU, XLR-3-31 type
2 TR IN2 (1 stereo, 2 ch):	AES/EBU, XLR-3-31 type
<b>Digital Output</b>	
PGM OUT (L/R):	AES/EBU, XLR-3-32 type
AUX SEND (5 - 8 ch):	AES/EBU, XLR-3-32 type
<b>Analog Input</b>	
Analog IN-A (1 - 12 ch):	XLR-3-31 type, balanced
Analog IN-B (1 - 12 ch):	1/4" TRS jack, balanced
LINE IN (13 - 24 ch):	Combo coax, balanced
2TR IN-1 (L/R):	1/4" TRS jack, balanced
AUX Return (1 - 4 ch):	1/4" TRS jack, balanced
<b>Analog Insertion I/O</b>	
INS SEND, RETURN (1 - 12 ch):	1/4" TRS jack, unbalanced
<b>Analog Output</b>	
PGM OUT (L/R):	1/4" TRS jack, balanced
AUX SEND (8 ch):	1/4" TRS jack, balanced
Control Room Monitor (6 ch):	1/4" TRS jack, balanced
Studio Monitor (2 ch):	1/4" TRS jack, balanced

### Optional Inputs/Outputs

<b>Digital I/O</b>	
Inputs (DMBK-R103):	8ch, AES/EBU, XLR-3-31 Type
Outputs (DMBK-R103):	8ch, AES/EBU, XLR-3-32 Type
Inputs for Sampling Rate Conversion (DMBK-R104):	8ch, AES/EBU, XLR-3-31 Type or IEC 958 Optical
<b>Analog I/O</b>	
LINE IN (DMBK-R101):	8ch, XLR-3-31, Balanced
LINE OUT (DMBK-R102):	8ch, XLR-3-32, Balanced
NSERTION (DMBK-R105):	8ch, SEND/RETURN, 1/4" TRS jack, unbalanced
<b>Digital I/F for adat (DMBK-R106)</b>	
Inputs and Outputs:	8ch, optical
<b>Digital I/F for TDIF (DMBK-R107)</b>	
Inputs and Outputs:	8ch, D-sub 25-pin female

### Control Signal I/O

Word Reference:	Input: BNC, Output: BNC
Video Reference:	BNC, Loop-through
Timecode Input:	SMPTE/EBU, XLR-3-31 type, balanced
MIDI Timecode Input:	MIDI Standard, DIN 5-pin female
MIDI IN/OUT/THRU:	MIDI Standard, DIN 5-pin female
Remote IN:	Sony 9-pin, D-sub 9-pin female
Remote OUT1/OUT2:	Sony 9-pin, D-sub 9-pin female
PC Interface:	Macintosh Serial, D-sub 9-pin female
Foot Switch:	Make-Point, 1/4" TRS jack

### Signal Processing

Internal Digital Processing:	32/40-bit floating point
Equalizer:	4-band, variable Q
Resolution:	0.25 dB (min)
Filter:	LPF/HPF
Dynamics:	Limiter/Compressor/ Expander/Gate
Oscillator:	Frequency level adjustable
Level Meter:	20 segments LED

### Audio

<b>Frequency Response</b>	
LINE IN - PGM OUT:	20 Hz to 20 kHz, ±0.2 dB (typical)
MIC IN - PGM OUT:	20 Hz to 20 kHz, ±0.3 dB (typical)
<b>T.H.D.</b>	
LINE IN - PGM OUT:	at +4 dBs, 1 kHz, 0.01% (typical)
MIC IN - PGM OUT:	at -60 dBs, 1 kHz, 0.06% (typical)
<b>Noise Level</b>	
MIC IN:	-126 dBu (150 Ω termination) (typical)
	Crosstalk
Between Input Channels:	More than 90 dB (at 1 kHz)
Between Output Channels:	More than 90 dB (at 1 kHz)
<b>Dynamic Range</b>	
LINE IN - PGM OUT:	103 dB, typical, DIN Audio
A/D converter:	24-bit, x 128 oversampling
D/A converter:	24-bit, x 128 oversampling

### General

Power Requirements:	AC 100 V (J), 120 V (UC), 240 V (CE), 50/60 Hz
Power Consumption:	200 W max.
Dimensions (W x D x H):	1070 x 195 / 70 x 560 mm (42 1/4 x 7 3/4 / 9/32 x 22 1/8 inches)
Mass:	52 kg (114 lb 10.2 oz)
Operating Temperature:	5 to 35 °C (41 to 95 °F)
Stored Temperature:	-20 to -60 °C (-4 to -140 °F)
Fader Resolution:	10-bit (1024 steps)
Total Delay:	Less than 2.0 ms (LINE IN to PGM Output) at 48 kHz

## Optional Accessories ---

**DMBK-R101**

8-CH Analog LINE IN Board

**DMBK-R105**

Insertion Board

**DMBK-R102**

8-CH Analog LINE OUT Board

**DMBK-R106**

Interface Board for adat

**DMBK-R103**

8-Ch AES/EBU DIO Board

**DMBK-R107**

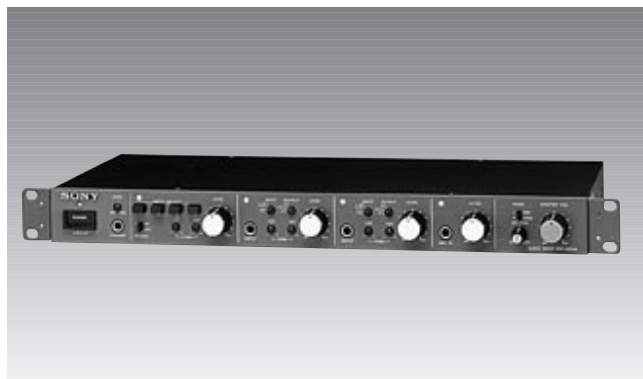
Interface Board for TDIF

**DMBK-R104**

Sampling Rate Converter DI Board

Audio Mixer

# SRP-X6004\*



- One stereo input, with four-way inputs selector, and three-mono (2-mic/line and 1 mic) inputs
- Mono input connectors are provided on both the front (phone type) and rear (XLR type) of the unit
- Stereo output can provide a mixed mono output
- Paging function
- Automatically reduces the gain of the stereo input by 13 dB when mono input is used
- Input channels 2 and 3 have a switchable attenuator which reduces their sensitivity to -45 dBu
- Effect return connectors (phono type) are provided on the rear panel
- Effect return connector can be used as a mixing bus input

**Supplied Accessory**

Power Cord (x 1)



SRP-X6004 Rear Panel

## Specifications

Frequency Response:	20 Hz to 20 kHz +0.5/-1.5 dB (1 kHz)		
T.H.D.:	Less than 0.05% (1 kHz master vol -10 dB, +4 dB output)		
Equivalent Input Noise:	INPUT 2, 3	MIC	-127 dBu (IHF-A)
		ATT	-112 dBu (IHF-A)
		LINE	-77 dBu (IHF-A)
	INPUT 4		-127 dBu (IHF-A)
Residual Noise:	Less than -100 dBu (master vol minimum position)		
Crosstalk:	Less than -60 dB (1 kHz)		
Tone Controls:	INPUT 1	HIGH	10 kHz ±15 dB
		LOW	100 Hz ±15 dB
	INPUT 2, 3	HIGH	6 kHz ±15 dB
		LOW	500 Hz ±15 dB
Power Requirements:	AC 120, 230V, 50/60 Hz		
Dimensions:	482 (W) x 44 (H) x 175 (D) mm (19 x 1 3/4 x 7 inches)		
Mass:	2.9 kg (6 lb 6 oz)		

*\*Not available in USA*

## Input/Output

Input							
Position	Connector	No. of CH	Circuit type	Reference level		Max. level	Impedance
1	Phono	ST x 4	Unbalanced	-10 dBu		+20 dBu	13 kΩ
2	Phone	1	Unbalanced	MIC -60 dBu	-60 dBu	-40 dBu	1 kΩ
	XLR-3-31	1	Balanced	ATT -45 dBu	-45 dBu	-25 dBu	2.8 kΩ
3	Phone	1	Unbalanced	Line -10 dBu	-10 dBu	+10 dBu	15 kΩ
	XLR-3-31	1	Balanced	MIC -60 dBu	-60 dBu	-40 dBu	1 kΩ
4	Phone	1	Unbalanced	ATT -45 dBu	-45 dBu	-25 dBu	2.8 kΩ
	XLR-3-31	1	Balanced	Line -10 dBu	-10 dBu	+10 dBu	15 kΩ
EFF RTN	Phono	ST x 1	Unbalanced	-60 dBu		-40 dBu	1 kΩ
				-60 dBu		-40 dBu	1 kΩ
				-10 dBu		+20 dBu	10 kΩ

Output							
Position	Connector	No. of CH	Circuit type	Reference level		Max. level	Load impedance
Output	XLR-3-32	ST x 1	Balanced	MASTER BUS	+4 dBu	+20 dBu	More than 600 Ω
	Phono	ST x 1	Unbalanced	MASTER REC	-10 dBu	+14 dBu	
Eff send	Phono	1	Unbalanced		+4 dBu	+20 dBu	More than 10 kΩ
Headphone	Phone	ST x 1	—		-5 dBu	20mW (8 Ω)	More than 8 Ω

Powered Mixer

# SRP-X350P\*



- 5-CH audio input with AV selector with 50 W+50 W (8 Ω) stereo power amplifier
- Three microphone and two line inputs
- One of line inputs has a AV selector with four video inputs and one phono input. And one effect return input is also provided.
- Stereo, REC and effect send outputs
- Feedback reduction which is two-band notch filters of frequency variable is provided.
- 3U high and mountable in a 19-inch rack



SRP-X350P Rear Panel

## Specifications

Audio Input						
		Connector	No. of CH	Reference level	Max. Level	Impedance
Mic in	Front	Phone	3	-54 dBu	-30 dBu	2.7 kΩ
	Rear	XLR-3-31				
Line in 1	Front	Phono	ST x 1	-10 dBu	+10 dBu	10 kΩ
Line in 2	1.2.3.4	Phono	ST x 4	-10 dBu	+10 dBu	10 kΩ
	Phono	Phono	ST x 1	2.5 mV	30 mV	47 kΩ
Effect return		Phono	ST x 1	-10 dBu	+10 dBu	10 kΩ
Power amp in		Phono	ST x 1	-10 dBu	Sensitivity -7 dBu	

Audio Output					
	Connector	No. of CH	Reference level	Max. level	Load impedance
Effect send	Phono	2 (Mono)	-10 dBu	+10 dBu	More than 10 kΩ
Rec out	Phono	ST x 1	-10 dBu	+10 dBu	More than 10 kΩ
Line out	Phono	ST x 1	-10 dBu	+10 dBu	More than 10 kΩ
Speaker out	Screw	ST x 1	Rated output power 50 W + 50 W (8 Ω) 65 W + 65 W (4 Ω)		

Video Input/Output			
	Type of video	Connector	No. of CH
AV 1-4	Video in	Phono	4
	S-Video in	4 pin mini DIN	4
Master out	Video out	Phono	2
	S-Video out	4 pin mini DIN	1

S-Video signal and Video (composite) signal are separated.

Electrical Characteristics (Audio)		
	Conditions	Standards
Frequency response	20 Hz to 20 kHz, 1 kHz reference Master out	±1 dB
THD	Mic in -Master out 1 kHz, -54 dBu input Phono in-Master out 1 kHz, 2.5 mV input Line in -Master out 1KHz, -10 dBu input	Less than 0.05% Less than 0.01% Less than 0.01%
S/N ratio	Mic in, input 150 Ω termination, IHF-A Phono in, input 1 Ω termination, IHF-A Master out Line in, input short, IHF-A	More than 62 dB More than 70 dB More than 80 dB
Residual noise	Master vol 0, IHF-A, speakers output	Less than 500 μV
Crosstalk	1kHz, between L-R channels 1kHz, between selector input	Less than -60 dB Less than -80 dB
Equalizer	Treble 10 kHz (Shelving type) Bass 100 Hz (Shelving type)	±12 dB ±12 dB

Electrical Characteristics (Video/S-Video)		
	Conditions	Standards
Frequency response	To 10 MHz, reference 100 kHz	+0.5, -1dB
Crosstalk	4.43 MHz 714 mVp-p	Less than -50 dB
S/N ratio	100 kHz HPF 5 MHz LPF	More than 65 dB
K Factor	2T pulse	Less than 0.3%

### General

Power Requirements: AC 120, 230V, 50/60 Hz  
 Dimensions: 482 (W) x 132 (H) x 350 (D) mm  
 (19 x 5 1/5 x 13 4/5 inches)  
 Mass: 10 kg (22 lb 0.7 oz)

\*Not available in USA



Powered Mixer

# SRP-X351P\*



- 4 microphone and 3 stereo line inputs
- Mounting slots are built-in to the rear panel for two UHF synthesized tuner units WRU-801A/806A
- A/V input selection can be controlled via remote terminals
- RS-232C (1 way), Sony Control-S and EMG remote terminals are provided on the rear panel.
- Echo (AUX) send of MIC input signal
- 170 W+170 W (4 Ω) stereo power amplifier
- 3U high and mountable in a 19-inch rack

**Supplied Accessory**

Wireless remote commander SRP-351RM (x 1)



SRP-X351P Rear Panel

## Specifications

Audio Input						
	Connector	Circuit type	No. of CH	Reference level	Max. level	Impedance (Load impedance)
MIC input 1-4 (Rear)	XLR-3-31 type	Balanced	4	-54 dBu	-24 dBu	2.2 kΩ
MIC input 4 (Front)	Phone jack	Balanced	1	-54 dBu	-24 dBu	2.2 kΩ
ST1 input	Phono	Unbalanced	ST x 1	-10 dBu	+10 dBu	20 kΩ
ST2 input	Phono	Unbalanced	ST x 1	-10 dBu	+10 dBu	20 kΩ
ST3 input	Phono	Unbalanced	ST x 4	-10dBu	+10 dBu	20 kΩ
Echo return input	Phono	Unbalanced	ST x 1	-10 dBu	+10 dBu	20 kΩ
MIC group output	Phono	Unbalanced	ST x 1	-10 dBu	+10 dBu	(More than 10 kΩ)
Echo send output	Phono	Unbalanced	ST x 1	-10 dBu	+10 dBu	(More than 10 kΩ)
Master output	Phono	Unbalanced	ST x 1	-5 dBu	+15 dBu	(More than 10 kΩ)
Rec output	Phono	Unbalanced	ST x 1	-10 dBu	+10 dBu	(More than 10 kΩ)
Speakers output	Screw type binding terminal	—	ST x 1	125 W+125 W (8 Ω 1 kHz THD 0.1%) 170 W+170 W (4 Ω 1 kHz THD 0.1%)		

Insert Input/Output					
	Connector	Circuit type	No. of CH	Reference level	Impedance (Load impedance)
Master insert	Phone	Unbalanced	2	Input -10 dBu Output -10 dBu	20 kΩ (More than 10 kΩ)
MIC insert	Phone	Unbalanced	1	Input -10 dBu Output -10 dBu	20 kΩ (More than 10 kΩ)

Video Input/Output			
	Type of video	Connector	No. of CH
ST3 input (ABCD)	Video in S-Video in	Phono 4 pin mini DIN	4 4
Master out Rec out	Video out S-Video out	Phono 4 pin mini DIN	2 2

S-Video signal and Video (composite) signal are separated

Electrical Characteristics (Audio)		
	Conditions	Standards
Frequency response	20 Hz to 20 kHz, 1 kHz reference Master out	+0.5,-1 dB
THD	EQ FLAT, 20 Hz to 20 kHz input	Less than 0.05%
S/N ratio	ST in, input short, IHF-A	More than 85 dB
Residual noise	Master Vol 0, IHF-A, speakers output	Less than 100 μV
Crosstalk	1kHz, between L-R channels 1kHz, between input channel	Less than -60 dB Less than -80 dB
Tone control	Treble 10 kHz (Shelving type) Bass 60 Hz (Peaking type)	±12 dB ±12 dB

Electrical Characteristics (Video/S-Video)		
	Conditions	Standards
Frequency response	50 to 10 MHz, 3.58 MHz reference	+0.5,-1 dB
S/N ratio	100 kHz HPF 5 MHz LPF	More than 65 dB
Crosstalk	3.58 MHz	Less than -50 dB

Other Terminals	
Antenna in	BNC, 2 channels, DC 9V out
Phantom power supply	DC 48V, MIC 1-4, XLR connectors

**General**

Power Requirements: AC 120V, 230V (50/60Hz)  
 Dimensions: 482 (W) x 132 (H) x 350 (D) mm  
 (19 x 5 1/5 x 13 4/5 inches)  
 Mass: 15.0kg (33 lb)

\*Not available in USA

## Optional Accessories

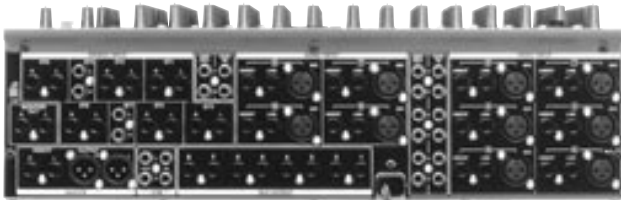
- WRU-801A** UHF Synthesized Tuner Unit
- WRU-806A** UHF Synthesized Tuner Unit

Audio Mixer

# SRP-V110



- 10-mono input (1-8 mono input has tape input connector of pin jack type)
- Monitor function (using AUX1-2) for 1-8 mono input
- 4-stereo input and 4-stereo sub-input
- 8-AUX output (switchable knobs between 5-6 and 7-8)
- 8-subgroup output (4-stereo faders are equipped for master) and L/R master output
- 3-band EQ for mono & stereo input
- 9U high and mountable in a 19-inch rack
- Optional rack mount adapter MU-110BK



SRP-V110 Rear Panel

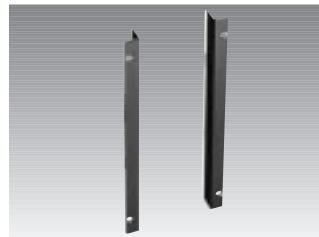
## Specifications

Equivalent Input Noise:	Less than -129 dBu (MIC input -60 dBu)
Residual Noise:	Less than -95 dBu (MASTER OUT)
Power Requirements:	AC 120V, 230V 50/60 Hz
Dimensions:	430 (W) x 120 (H) x 396 (D) mm (17 x 4 3/4 x 15 3/5 inches)
Mass:	8.7 kg (19 lb 3 oz)

## Optional Accessory

### MU-110BK

Rack Mount Adapter (Pair)

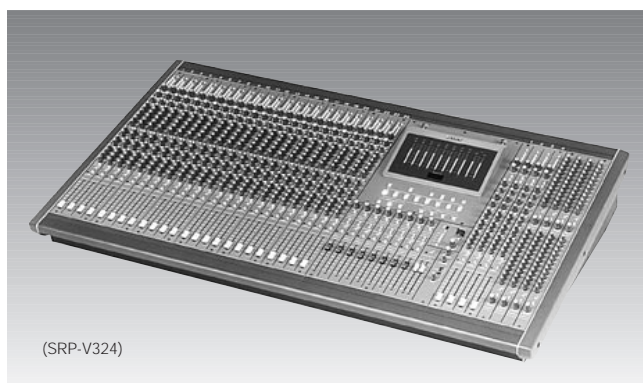


## Input/Output

		Connector	Circuit type	Reference level	Maximum level	Impedance	Load impedance	
Mono input 1-10	Mic	XLR-3-31	Balanced	-60 - -10 dBu	-37 - +13 dBu	2.2 kΩ	—	
	Line	Phone		-40 - -10 dBu	-17 - +30 dBu	22 kΩ	—	
	Tape input	Phono	Unbalanced	-10 dBu	+13 dBu	10 kΩ	—	
	Insert input	Phone	Unbalanced	-3 dBu	+20 dBu	30 kΩ	—	
	Insert output			-3 dBu	+20 dBu	47 Ω	More than 600 Ω	
Stereo input 1-8	1,4	Phone	Balanced	-10/+4 dBu	+13/+27 dBu	More than 3.3 kΩ	—	
	5,7	Phono	Unbalanced	-10 dBu	+30 dBu	More than 10 kΩ	—	
	6,8	Phone	Unbalanced	-10 dBu	+30 dBu	More than 10 kΩ	—	
AUX output		Phone	Unbalanced	+4 dBu	+20 dBu	100 Ω	More than 600 Ω	
Group/Direct output		Phono	Unbalanced	-10 dBu	+10 dBu	320 Ω	More than 10 kΩ	
2TR	input	Phono	Unbalanced	-10 dBu	+30 dBu	More than 10 kΩ	—	
	output	Phono	Unbalanced	-10 dBu	+10 dBu	320 Ω	More than 10 kΩ	
Stereo output			XLR-3-32	Balanced	+4 dBu	+24 dBu	47 Ω	More than 600 Ω
	Insert input	Phone	Unbalanced	-6 dBu	+20 dBu	More than 30 kΩ	—	
	Insert output			-6 dBu	+20 dBu	47 Ω	More than 600 Ω	
Monotor output			Phone	Unbalanced	+4 dBu	+20 dBu	100 Ω	More than 600 Ω
	Headphone		Phone	—	—	40 mW + 40 mW	—	More than 8 Ω

Audio Mixing Console

**SRP-V316** 16-mono Input  
**SRP-V324** 24-mono Input  
**SRP-V332** 32-mono Input  
**SRP-V340** 40-mono Input



(SRP-V324)

- Sophisticated circuit design providing high input headroom, crosstalk performance
- High rigidity chassis construction
- 4 stereo inputs
- 8 matrix outputs in addition to output buses of 8 groups, 8 AUX sends, an L/R and a monitor
- Mono and stereo is equipped with 2-type connector of input
- Each mono channel features low-cut filter with sweepable cut-off frequency between 20-400 Hz
- Optional SRP-3PS Power Supply Unit is required

Supplied Accessory

Lamp attachment (SRP-V332/V340 only) (x 2)



SRP-V332 Rear Panel

Input/Output

		Connector	Circuit type	Reference level	Maximum level	Impedance	Load impedance
Mono input	Input A Mic	XLR-3-31	Balanced	-60 - -20 dBu	-30 - +10 dBu	5 kΩ	—
	Input A Line			-26 - +4 dBu	-6 - +24 dBu	5 kΩ	—
	Input B	Phone	Balanced	-10/+4 dBu	+10/+28 dBu	10 kΩ	—
	Insert out	Phone	Unbalanced	-8 dBu	+22 dBu	22 Ω	More than 600 Ω
	Insert in	Phone	Unbalanced	-8 dBu	+22 dBu	100 kΩ	—
	Direct out	Phone	Unbalanced	+1 dBu	+21 dBu	22 Ω	More than 600 Ω
Stereo input (CH1-4)	Input A	XLR-3-31	Balanced	-26 - +4 dBu	-6 - +24 dBu	10 kΩ	—
	Input B	Phono	Unbalanced	-10 dBu	+10 dBu	100 kΩ	—
Group output (CH1-8)		XLR-3-32	Balanced	+4 dBu	+24 dBu	22 Ω	More than 600 Ω
	Insert out	Phone	Unbalanced	-8 dBu	+22 dBu	22 Ω	More than 600 Ω
	Insert in	Phone	Unbalanced	-8 dBu	+22 dBu	100 kΩ	—
Master output (Stereo, L/R)		XLR-3-32	Balanced	+4 dBu	+24 dBu	22 Ω	More than 600 Ω
	Insert out	Phone	Unbalanced	-8 dBu	+22 dBu	22 Ω	More than 600 Ω
	Insert in	Phone	Unbalanced	-8 dBu	+22 dBu	100 kΩ	—
AUX Master output (CH1-8)		XLR-3-32	Balanced	+4 dBu	+24 dBu	22 Ω	More than 600 Ω
Monitor output		XLR-3-32	Balanced	+4 dBu	+24 dBu	22 Ω	More than 600 Ω
	Headphone	Phone	—	—	0.1 W x 2	—	More than 8 Ω
Matrix output		XLR-3-32	Balanced	+4 dBu	+24 dBu	22 Ω	More than 600 Ω
	Sub input	Phone	Balanced	+4 dBu	+26 dBu	10 kΩ	—
Talk back	Mic input	XLR-3-31	Balanced	-50 dBu	-20 dBu	5 kΩ	—

Specifications

Equivalent Input Noise:	Less than -128 dBu (MONO INPUT LEVEL control -60dBu, terminated at 150 Ω , 20 Hz to 20 kHz)
Residual Noise:	-100 dBu (STEREO/GROUP/MATRIX, MASTER fader/control -∞, 20 Hz to 20 kHz)
	-95 dBu (AUX, MASTER control -∞ ,20 Hz to 20 kHz)
	-85 dBu (STEREO/GROUP, MASTER fader 0, Channel fader -∞ , 24 ch assign, 20 Hz to 20 kHz)
CMRR:	More than 80 dB (MONO INPUT LEVEL control -60 dBu, 1 kHz)
Crosstalk:	Less than -100 dB (Between MONO INPUT adjoining channels, 1 kHz)
	Less than -100 dB (STEREO/GROUP OUTPUT adjoining channels, 1 kHz)
	Less than -80 dB (Between STEREO INPUT L and R, 1 kHz)
Dimensions, Mass:	SRP-V316 1,140 (W) x 236 (H) x 808 (D) mm (45x 9 3/8 x 3 7/8 inches), 47 kg (103 lb 10 oz)
	SRP-V324 1,387 (W) x 236 (H) x 808 (D) mm (54 5/8 x 9 3/8 x 31 7/8 inches), 57 kg (125 lb 10 oz)
	SRP-V332 1,634 (W) x 236 (H) x 808 (D) mm (64 3/8 x 9 3/8 x 31 7/8 inches), 67 kg (147 lb 11 oz)
	SRP-V340 1,881 (W) x 236 (H) x 808 (D) mm (74 1/8 x 9 3/8 x 31 7/8 inches), 77 kg (169 lb 12 oz)

(Width/Height/Depth excluding protrusion)

Power Supply Unit

**SRP-3PS\***



- Power supply unit for the SRP-V300 Audio Mixing Console series



SRP-3PS Rear Panel

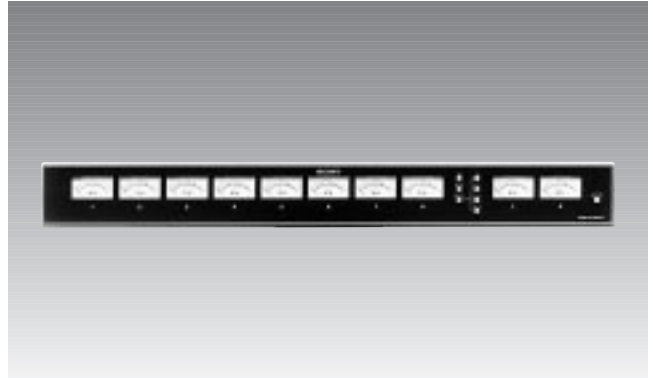
**Specifications**

Power Requirements:	AC 120V, 230V, 50/60Hz
Dimensions:	482 (W) x 132 (H) x 350 (D) mm (19 x 5 1/5 x 13 4/5 inches)
Mass:	21 kg (46 lb 5 oz)

\*Not available in USA

Meter Unit

**SRP-3M**



- Meter unit for the SRP-V300 Audio Mixing Console series

**Supplied Accessories**

- Connecting cable 1.5 m (x 2)
- Lamp attachment (x 2)

**Specifications**

Dimensions:	790 (W) x 141.5 (H) x 84 (D) mm (39 1/8 x 5 5/8 x 3 3/8 inches)
Mass:	3.9 kg (8 lb 9 oz)

# SECTION 12

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## Audio-Follow-Video Editing Mixers

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16-Channel Digital Audio Console

# DMX-E3000



W/DMBK-3000

- Fully digital audio mixer designed for DVTR based video post production
- 32 into four configuration with additional 32 x 16 input router
- Control surface and signal processing matches the style of video switchers
- AES/EBU I/O ports, direct connection to DVTRs and other digital audio equipment
- Video style monitoring with four internal preview buses and analog outputs via 20-bit D/A converters
- Optional 3-band EQ, high-cut filter and low-cut/notch selectable filter
- Phase inversion and programmable audio delay (0 to 9.9 frames in 0.1 frame steps)
- Internal MS (Middle-side) decoder
- Pan control and trimming input signal level
- Editor, auto and manual crossfade modes
- Fader learn function
- Assignable digital insertion
- Serial video editor interface (Sony serial and ESAM II extended)
- Parallel interface for GPIs and remote control
- Snapshot automation with 99 audio registers
- Supports 48 kHz (DVTR audio)/47.952 kHz (HDVS transfer), 44.1 kHz (CD) sample rates
- Video, word, D-I sync inputs and Word sync output

### Supplied Accessories

- AC power cord (x 2)
- Connecting cable (control panel to processor unit), 30 m (x 1)
- Connecting cable (control panel to meter bridge), 3 m (x 1)
- Rack mount kit for controller/meter unit (x 1)
- Meter housing installation kit (x 1)
- 75  $\Omega$  terminator (x 1)
- Operation and maintenance manuals (x 1)



DMX-E3000 Rear Panel (Controller)



DMX-E3000 Rear Panel (Processor)

## Optional Accessories

### DMBK-3000

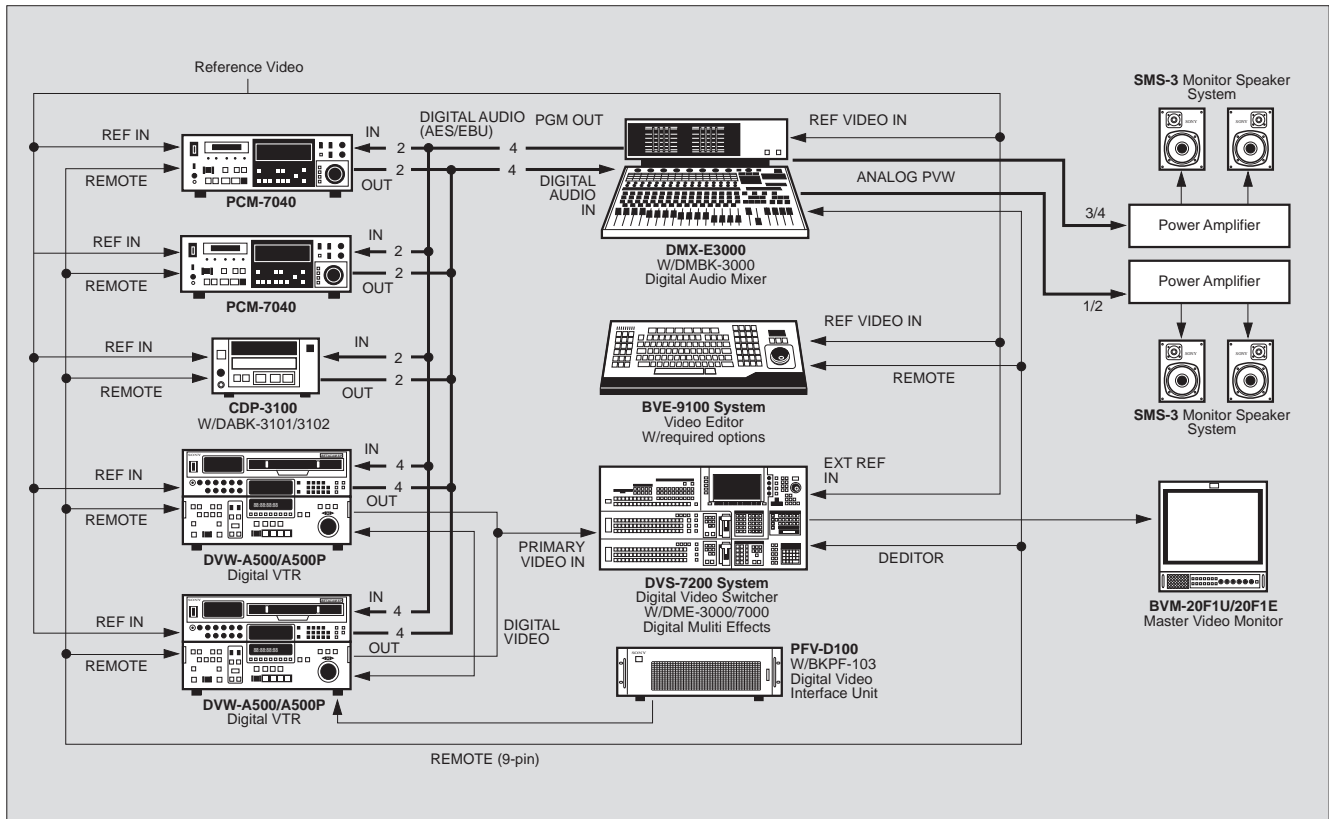
Equalizer/filter Unit

- Equipped with the DMBK-3000 provides assignable control of equalizer along with low/high cut filters

### DMBK-3010

Remote Control Unit

## DMX-E3000 System Diagram



*Digital Audio Mixer*

# DMX-E2000



- Fully digital audio console for video editing system
- 20 digital inputs; 16 channels inputs and 4 AUX inputs
- Serial video edit controller interface (ESAM II Extended)
- Channel status display
- Sampling rate converter for AUX input channels
- Fader learn function
- Pan/Balance control
- 3-band EQ and high-pass/notch selectable filter
- Phase inversion and programmable delay (0 to 5.0 frames)
- Supports 48 kHz (DVTR audio), 44.1 kHz sampling rate
- Snapshot automation with 99 audio registers
- All-in-one unit and 19-inch width

**Supplied Accessories**

- AC power cord (x 1)
- Rack mount bracket (x 1)
- Video reference terminator (x 1)
- Operation and maintenance manual (x 1)



DMX-E2000 Rear Panel

## Peripheral Equipment

### DMA-2000

Audio Converter Unit



- Two channels with 20-bit A/D and D/A converters
- Each channel has both a microphone and line input, with individual gain control

Power requirements: AC 100 to 240 V, 50/60 Hz  
 Power consumption: 30 W  
 Dimensions: 424 (W) x 43.6 (H) x 350 (D) mm  
 (16 3/4 x 1 3/4 x 13 7/8 inches)  
 Mass: 7 kg (15 lb 7 oz)



## Specifications

		DMX-E3000	DMX-E2000
Inputs		DIGITAL IN (AES/EBU, 32-ch) INSERTION (AES/EBU, 2-ch) VIDEO SYNC IN DI SYNC IN WORD SYNC IN REMOTE IN	DIGITAL IN (AES/EBU, 16 ch) AUX IN (AES/EBU, 4-ch or IEC-958, 4-ch) VIDEO SYNC IN WORD SYNC IN REMOTE IN
Input Connectors	DIGITAL IN MIC LINE MIC/LINE RETURN PHONO SUB MONITOR AUX TB REFERENCE VIDEO IN WORD SYNC IN REMOTE IN	XLR-3-31 type — — — — — — — — — — BNC BNC D-sub 9-pin, serial (Sony 9-pin) D-sub 50-pin, parallel	XLR-3-31 type — — — — — — XLR-3-31 type/Phono type — BNC BNC D-sub 9-pin serial (ESAM II Extended) D-sub 25-pin parallel, D-sub 25-pin (RS-232C)
Sampling Frequency		48 kHz, 47.952 kHz, 44.1 kHz	44.1 kHz, 48 kHz
Frequency Response		20 Hz to 20 kHz +0.2 dB/-0.5 dB at 1 kHz	
Harmonic Distortion		Less than 0.02%	
Equivalent Input Noise (150 Ω terminated)		—	—
Residual Noise		—	—
Crosstalk		Less than -90 dB	
Max. Overall Gain		—	—
Built-in Oscillator		1 kHz	400 Hz/1 kHz/8 kHz/12 kHz variable
Emphasis		—	—
Equalizer		w/DMBK-3000 1 to 16 kHz, ±15 dB, Q=0.7, shelving 200 Hz to 3.2 kHz, ±15 dB, Q=0.7 20 Hz to 320 Hz, ±15 dB, Q=0.7, shelving	1 to 16 kHz, ±15 dB, shelving 200 Hz to 3.2 kHz, ±15 dB, Q=0.7/1.4, peaking 20 Hz to 320 Hz, ±15 dB, shelving
Filters	Low Cut Filter High Cut Filter Notch Filter	21 to 330 Hz (at -3 dB), 12 dB/oct 1 to 16 kHz (at -3 dB), 12 dB/oct 50/60/100/120/150/180 Hz	20 Hz to 330 Hz, 12 dB/oct — 50/60/100/120/150/180 Hz
Metering		101-segment LED bargraphs w/peak hold	
Outputs		DIGITAL OUT (AES/EBU, 8 x 4 channels) PREVIEW (Digital) (AES/EBU, 4 channels) PREVIEW (Analog) (4 channels) INSERTION OUT (AES/EBU, 2 channels) WORD SYNC OUT (loop-through) VIDEO SYNC OUT (loop-through)	DIGITAL OUT (AES/EBU, 4-ch x 4) AUX SEND (AES/EBU, 2-ch) MONITOR OUT (Analog, 2-ch) TB OUT (Analog, 1-ch) VIDEO SYNC OUT (loop-through) WORD SYNC OUT (loop-through)
Output Connectors	DIGITAL OUT PREVIEW OUT LINE GROUP AUX MONITOR PHONE TB PFL VIDEO SYNC WORD SYNC	XLR-3-32 type XLR-3-32 type — — — — — — — — — —	XLR-3-32 type XLR-3-32 type — — XLR-3-32 type XLR-3-32 type — XLR-3-32 type — BNC BNC
Power Requirements		AC 100/120/220/240 V, 50/60 Hz	
Power Consumption		Controller/meter unit: 30 W, Processor unit: 50 W	50 W
Dimensions (W x H x D)		Controller: 424 x 119.3 x 398.8 mm (16 3/4 x 4 3/4 x 15 3/4 inches) Processor: 424 x 177 x 450 mm (16 3/4 x 7 x 17 3/4 inches) Meter unit: 424 x 132.4 x 40 mm (16 3/4 x 5 1/4 x 1 5/8 inches)	424 x 130 x 400 mm (16 3/4 x 5 1/8 x 15 3/4 inches)
Mass		Controller: 13 kg (28 lb 10 oz) Processor: 10 kg (22 lb) Meter unit: 1 kg (2 lb 3 oz)	15 kg (33 lb 1 oz)

Audio Mixer

# SRP-V200\*



- Designed for small to medium sized video editing systems
- 4-mono inputs with Mic/Line A/Line B selection, 6-stereo inputs and 2-Effect returns
- 3-band equalization and a low cut filter on each input channel
- External power supply (DC 48V) on the 4-mono input channels
- Pre Fader Listening function for monitoring each input channel signal
- Fader Start function on each input channel
- 4-track audio A/B roll editing with VTRs. Combining the stereo and mono input channels also allows A/B/C roll editing
- 4-CH preview bus supports both fixed and free recorder assignment
- 4 x 4 monitor matrix switcher provides total monitoring flexibility, allowing any monitor or preview bus to be routed to any combination of monitoring outputs
- TB Master and TB Out buttons route the internal talk-back microphone to the Line outputs and the TB output
- Optional table kit MU-200TK

**Supplied Accessories**

- Rack mounting adaptor (x 2)
- Plug adaptor (for some AC 120V countries)(x 1)



SRP-V200 Rear Panel

## Specifications

Terminal	Connector	No. of CH	Reference level	Max. level	Impedance (Load impedance)
Mono input A	XLR-3-31	4	Mic: -60 - -17 dBu Line: -30 - +13 dBu	Mic: -35 - +8 dBu Line: -5 - +24 dBu	MIC: More than 2 kΩ Line: More than 10 kΩ
Mono input B	XLR-3-31	4	+4 dBu	+24 dBu	More than 10 kΩ/600 Ω
Stereo input	XLR-3-31	6	-10/+4 dBu	+15/+24 dBu	-10 dBu: More than 10 kΩ +4 dBu: More than 10 kΩ/600 Ω
Return input	Phono	2	-10 dBu	+15 dBu	47 kΩ
Exit Monitor in	XLR-3-31	4	+4 dBu	+24 dBu	More than 10 kΩ/600 Ω
Master output	XLR-3-32	4	+4 dBu	+24 dBu	100 Ω (More than 600 Ω)
Master output	Phono	4	-5 dBu	+15 dBu	220 Ω (More than 10 kΩ)
Monitor output	Phono	4	-5 dBu	+15 dBu	220 Ω (More than 10 kΩ)
AUX output	Phono	4	-5 dBu	+15 dBu	220 Ω (More than 10 kΩ)
TB output	Phono	1	-5 dBu	+15 dBu	220 Ω (More than 10 kΩ)
PFL output	Phono	1	-5 dBu	+15 dBu	220 Ω (More than 10 kΩ)
Headphone	ST Phone	1	—	10mW+10mW	(More than 8 Ω)

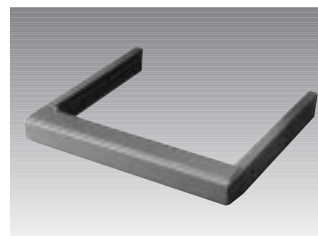
- Frequency Response: 20 Hz to 20 kHz +0.5/-1 dB (1 kHz, +4 dBu input, Master OUT +4 dBu output)
- T.H.D.: Less than 0.03% (1 kHz, +4 dBu input, Master OUT +4 dBu output)
- Equivalent Input Noise: Less than -127 dBu (20 Hz to 20 kHz, -60 dBu, 150 Ω terminated)
- Residual Noise: Less than -95 dBu (20 Hz to 20 kHz, master fader-∞, MASTER OUT)  
Less than -82 dBu (20 Hz to 20 kHz, all assign SW on, ch fader-∞, master fader 0, MASTER OUT)
- Crosstalk: Between MASTER OUT, Less than -80 dB (10 kHz, except for stereo input)
- Equalizer: HIGH: 10 kHz ±15 dB shelving type  
MID: 2.5 kHz ±15 dB peaking type  
LOW: 60 Hz ±15 dB peaking type
- Low Cut Filter: 100 Hz -12 dB/oct.
- LED Meter: 16-segment (VU response), 4CH
- Editor Interface: Protocol (SONY standard parallel type)  
A1/A2 connector 25-pin D-sub female type  
A3/A4 connector 25-pin D-sub female type
- Remote: 25-pin D-sub female type
- Power Requirements: AC 120/230V (Switchable), 50/60 Hz
- Dimensions: 481 (W) x 140 (H) x 349 (D) mm (19 / 5<sup>1</sup>/<sub>2</sub> / 13<sup>3</sup>/<sub>4</sub> inches)
- Mass: 9.4 kg (20 lb 12 oz)

\*Not available in USA

## Optional Accessory

### MU-200TK

Table Kit



# SECTION 13

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## Professional Cinema Surround Audio System

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Digital Film Sound Reader/Film Sound Reader

# DFP-R3000 DFP-D3000



### Supplied Accessories

- DFP-3000 Series Service Manual (x 1)
- Operation Guide for DFP-R3000 (x 1)
- Reader Cable (x 1)
- Reader Mount Kit (x 1)
- Operation Manual for DFP-D3000 (x 1)
- Power Cord (x 1)
- AC Adaptor (for backup power) (x 1)



### DFP-R3000

- Compact, stylish reader with simplified film threading path
- Long-life single LED track illumination
- Fewer moving parts with non-flywheel drum
- Simplified reader/decoder cable connection
- Magnetically damped sprocket for fatigue-free wow/flutter reduction

### DFP-D3000

- Complete with both SDDS and Analog soundtrack decoding
- Eliminates the need for a secondary analog processor
- Eight-channel SDDS playback with user-selectable fold-down for 5.1 channel theatres
- Two dedicated auxiliary inputs to connect alternative digital soundtrack formats
- Extensive, built-in self-diagnostic and automation capabilities
- Auto fader memory repeats user adjusted SDDS levels for consistent trailer to feature volume
- Eight channels of one-third octave B-chain equalization using DSP
- Display panel for easy identification for format and system status
- Switchable front panel headphone monitoring
- Reduced depth decoder fits into all cinema sound racks
- Easy installation and A & B chain alignment using laptop computer

## DFP-3000 Main Features

High-pass filter: Cut off: 47/68/100/150/180/220 Hz  
Slope -12 dB/oct

Subwoofer Low-pass filter:  
Cut off: 80/100/125/160/200/250/330 Hz  
Slope -12 dB/oct

28-band Graphic EQ

2-band SW parametric EQ:  
Boost:  $\pm 10$  dB (0.5 dB steps)

Surround channel delay:  
0 to 99 ms

Slit loss adjustment

16 mode SP matrix

Test generator: 1 kHz, 10 kHz, pink noise

8 mode preset

Theater mic routing switcher

Fader automation

## DFP-3000 Specifications

### Input/Output Characteristics

#### Projector Input/Output

Reader 1/2 Connectors: 5W1 connector (x 2)

Optical 1/2 Connectors: D-sub 9-pin female (x 2)

#### Input

MIC Input Connector: D-sub 9-pin female  
Reference level mic: -50 dBu

(MIC 1 selectable to Line Input):  
(-16/-10/+4 dBu selectable)  
Impedance 1.2 k $\Omega$  min (Line: 10k $\Omega$ )

Non-Sync Connector: RCA stereo phone jack  
Impedance 10 k $\Omega$  min  
Reference level -10 dBu

AUX Input 1/2 Connectors: L, LC, C, RC, R, SW, SL, SR  
D-sub 25-pin female  
Reference level -8.2 dBu  
Impedance 10 k $\Omega$  min

#### Output

System Output Connectors: D-sub 25-pin L, LC, C, RC, R, SW, SL, SR

Monitor Output Connector: D-sub 25-pin female  
Load Impedance 600  $\Omega$  min  
Reference level: -20 dBFS  
(-10/-16 dBu selectable)

Hearing Impaired: D-sub 9-pin female  
Sum of 7-channel (excluding SW)  
Load Impedance 10 k $\Omega$  min  
Reference level: -10dB

Headphones Jack: Output level 100mW (at 32  $\Omega$ )

#### Control Input/Output

Remote Level Control: D-sub 9-pin female

Input Voltage: 0 to +10 V

Automation Input/Output: D-sub 37-pin female

RS-232C: D-sub 9-pin female, baud rate 19.2 kbps

RS-422: D-sub 9-pin female

#### Backup Power

DC Input: Input voltage DC 15 V at 1 A

### Audio

Frequency Response: 20 Hz to 20 kHz ( $\pm 1$  dB)

Distortion: Less than 0.07% (at 1 kHz nominal level)

Dynamic Range: More than 90 dB

Crosstalk: Less than -80 dB (at 1 kHz)

### General

Power Requirements: AC 100 to 240 V, 50/60 Hz

Power Consumption: 1.1 A

#### Dimensions

DFP-D3000: 482 x 147 x 375 mm (19 x 5 <sup>7</sup>/<sub>8</sub> x 14 <sup>7</sup>/<sub>8</sub> inches)

DFP-R3000: 240 x 156 x 176 mm (9 <sup>1</sup>/<sub>2</sub> x 6 <sup>1</sup>/<sub>7</sub> x 7 inches)

#### Mass

DFP-D3000: 11 kg (24 lb 4 oz)

DFP-R3000: 3.5 kg (7.7 lb)

EIA Rack Mount Space: 3 units

Sampling Frequency: 44.1 kHz

Lock In Time: 1 s max.

Sync Drift Rate: 10 Hz/s max.

Sync Drift: 20 ms max.

## Optional Accessories

SDDS Alignment Film

Installation Test Film Kit

Optional reader mount adaptors

# SECTION 14

## Wired Microphones

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## Application and Suitability

Sound Source	Application Range		Model	Local Price*	
Instruments	Music Recording Audio Production	Drums (Bass Drum)	C-38B F-780		
		(Overhead) (Toms, Snare)	C-536P C-48 F-780		
		(High Hat)	C-535P		
		Percussion	C-38B F-780		
		Vibraphone	C-800 C-48 C-535P		
		Piano	C-800 C-48 C-535P C-536P		
		Strings	C-800 C-48 C-536P C-535P		
		Violin	C-800 C-48 C-535P C-536P ECM-77 Series ECM-55 Series		
		Viola	C-800G C-48 C-535P		
		Violoncello	C-800 C-48 C-535P		
		Contrabass	C-800 C-48 C-535P C-536P		
		Electric Bass	C-48 C-38B F-780		
		Guitar	C-800 C-48 C-38B C-535P C-536P		
		Harp	C-800 C-48 C-536P		
		Flute	C-800 C-48 C-536P		
		Trumpet	C-800 C-48 C-536P		
		Saxophone	C-800G C-48 C-535P C-536P ECM-66 Series		
		Trombone	C-536P F-780		
		Stage Concert Hall	Drums (Bass Drum)	C-38B F-780	
				(Overhead Toms, Snare, High Hat)	F-740 C-536P C-38B C-535P F-780 F-740
			Piano	C-48 C-535P C-536P	
			Violin	C-48 C-535P ECM-66 Series ECM-55 Series	
			Electric Bass	C-38B F-780 F-740	
			Guitar	C-38B C-536P F-780	
	Flute		C-48 C-536P		
	Trumpet		C-48 C-536P ECM-55 Series		
	Saxophone		C-48 C-535P C-536P ECM-55 Series F-780		

Sound Source		Application Range	Model	Local Price*	
Instruments		Home Studio Recording Private (MI)	Drums (Bass Drum)	F-780 F-740	
			(Overhead, Toms, Snare, High Hat)	C-535P C-536P F-780 F-740 ECM-23F3PR ECM-MS5 ECM-999PR	
			Piano	C-535P ECM-MS5 ECM-23F3PR ECM-999PR	
			Violin	C-535P ECM-MS5 ECM-23F3PR	
			Electric Bass	F-780 F-740	
			Guitar	C-38B C-536P F-780 ECM-999PR	
			Flute	C-536P ECM-23F3PR F-740	
			Trumpet	C-536P F-780 ECM-23F3PR	
			Saxophone	C-535P C-536P ECM-23F3PR F-740	
			Voice	Vocal (Song)	Critical Vocal Recording
Vocal Recording	C-48				
Stage Vocal	F-780 F-740 ECM-350BC				
Karaoke	F-780 F-740 F-730 F-710				
Speech (Movie, Drama, TV/Radio Studio)	Theater (Musical)	ECM-77 Series ECM-55 Series C-536P C-76			
	Production (Radio DJ, TV VJ)	C-48 C-38B C-74 ECM-672 ECM-MS5			
	Newscaster	ECM-77 Series ECM-66 Series ECM-55 Series ECM-44 Series			
	Interview (ENG/EFP)	C-74 ECM-672 ECM-670 ECM-MS5 ECM-510 F-115 F-740 F-720			
	Sound Contracting (Conference)	ECM-530 ECM-531 ECM-672 ECM-670 F-720 ECM-55 Series ECM-44 Series ECM-350BC ECM-310BC ECM-310BMP ECM-166BC ECM-122BMP ECM-121BMP			
	Live DJ	C-48 F-740 F-720 ECM-350BC ECM-310BC ECM-310BMP			
	Court Corder	F-BM7			
Ambience Sound (Sound effect)		C-48 C-76 C-74 ECM-MS5 ECM-672 ECM-999PR ECM-23F3PR			

\*Please note down your local price for reference.



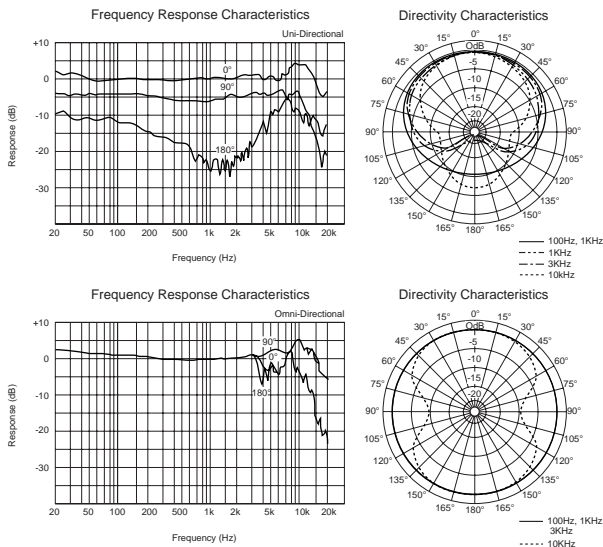
# Condenser Microphones

Vacuum Tube Condenser Microphone

## C-800G



- Designed for the highest possible sound reproduction quality
- Suitable for vocal recording in studios and film post-production houses
- High sensitivity of -32 dB/Pa.
- Low noise and low distortion due to built-in cooling system
- Large diaphragm capsule
- Selectable directivity — uni-directional or omni-directional



### Optional Accessories

#### AC-MC800G

AC Power Supply Unit

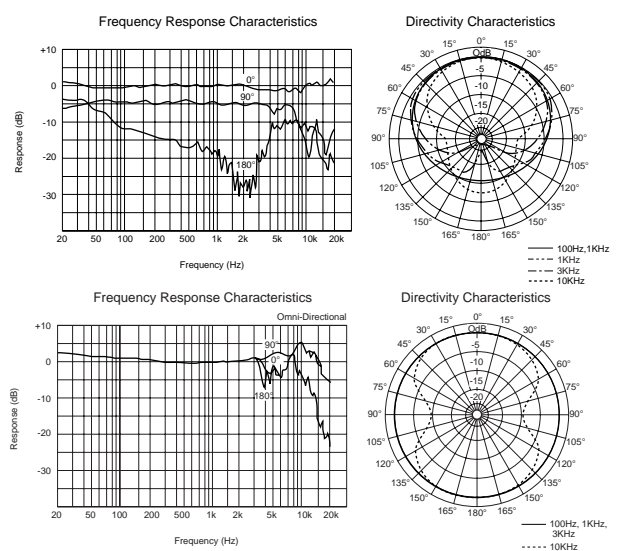


Vacuum Tube Condenser Microphone

## C-800



- Ideal for critical music recording applications in recording studios
- Successor to the world famous Sony C-37A
- Wide dynamic range, with 150 dB SPL input capability
- Warm, clear and natural reproduction of wide frequency range
- Selectable directivity — uni-directional or omni-directional
- Large diaphragm capsule



### Optional Accessories

#### AC-MC800

AC Power Supply Unit

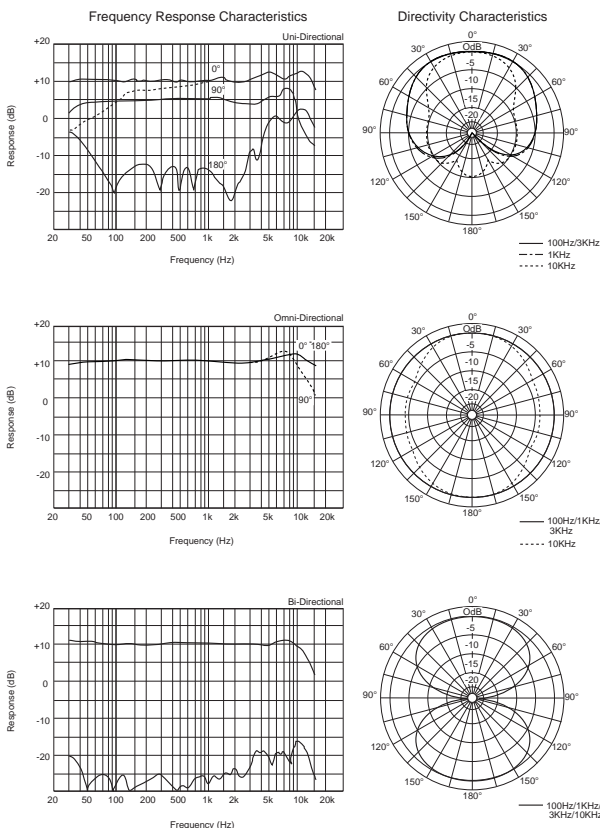


Condenser Microphone

# C-48



- Selectable directivity — uni-directional, omni-directional or bi-directional
- 2-way powering — internal 6F-22 size battery (Approx. 50 hours of continuous operation) or external power supply (DC 48 V)
- Suitable for vocal and instrumental recording
- 10 dB attenuation switch

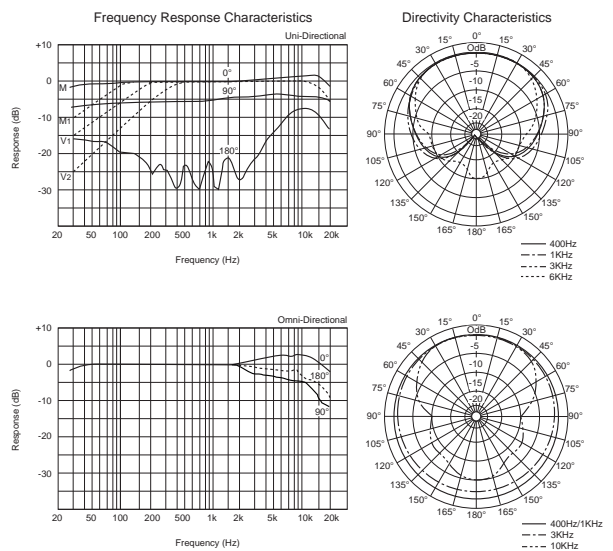


Condenser Microphone

# C-38B

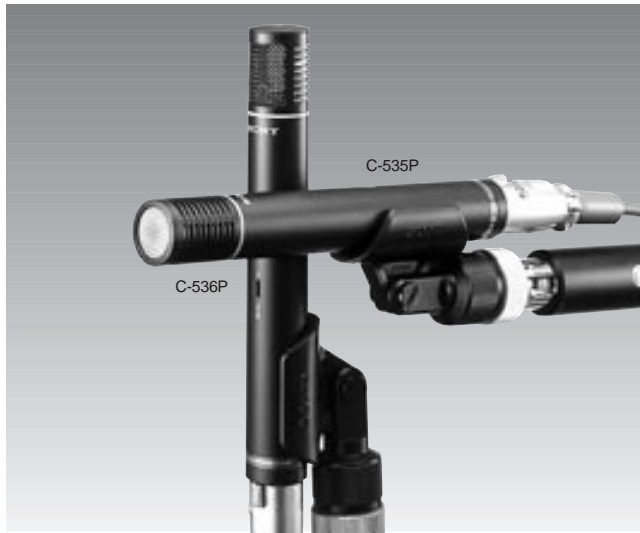


- Selectable directivity — uni-directional or omni-directional
- 140 dB SPL, suitable for recording wind instruments
- 2-way powering — internal 6F-22 size battery (Approx. 250 hours of continuous operation) or external power supply (DC 24 to 48 V)
- Vibration resistant construction
- Excellent shielding against external magnetic fields

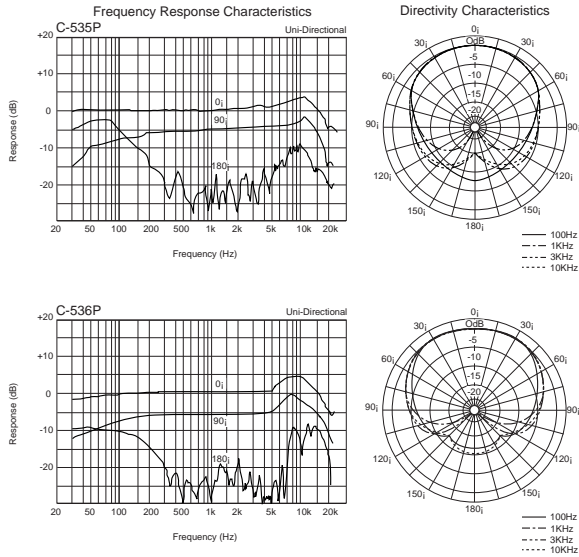


Condenser Microphone

# C-535P/C-536P

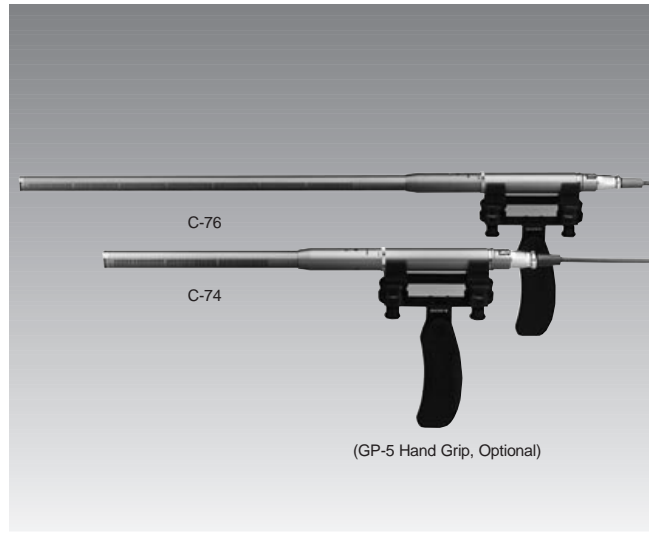


- Alternative uni-directional characteristics — C-535P, maximum sensitivity on microphone axis; C-536P, maximum sensitivity at right angles to microphone axis
- External power supply operation (DC 48 V)

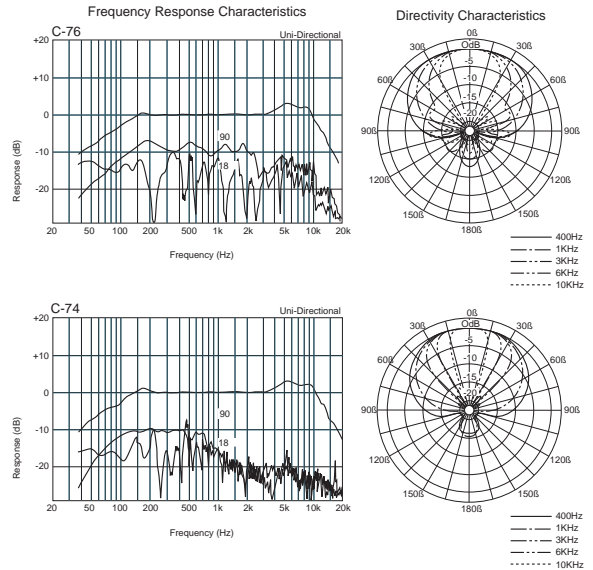


Condenser Microphone

# C-74/C-76



- Super-cardioid characteristics, rejecting indirect sound
- 2-way powering — internal 3CR-MIC (9 V) battery (Approx. 30 hours of continuous operation) or external power supply (DC 24 to 48 V)
- RF condenser design for low noise level



## Optional Accessories

### SC-76 Carrying Case



- For packing C-76 and accessories

### SC-72 Carrying Case



- For packing C-74, ECM-672 or ECM-MS5 and accessories

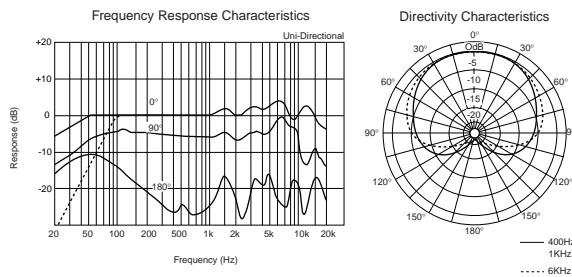
# Electret Condenser Microphones

*Electret Condenser Microphone*

## ECM-23F3PR



- Multi-purpose use
- Low-cut filter
- AA-size battery operation

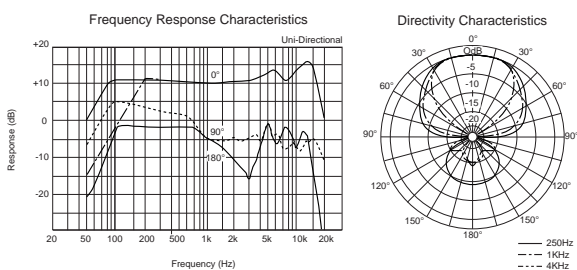


*Electret Condenser Microphone*

## ECM-672



- Super-cardioid characteristics, rejecting indirect sound
- 2-way powering — internal battery (Approx. 3,000 hours of continuous operation) or external power supply (DC 48 V)
- 2-position low-cut filter
- Suitable for mounting on Sony cameras and camcorders

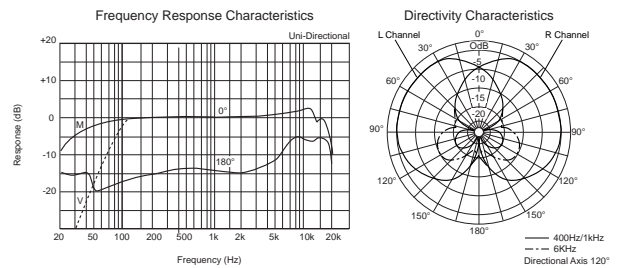


*MS Stereo Electret Condenser Microphone*

## ECM-999PR

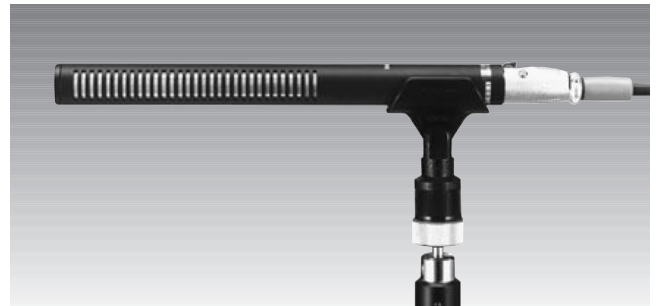


- Variable stereo angle (0° to 150°)
- Low-cut filter
- AA-size battery operation

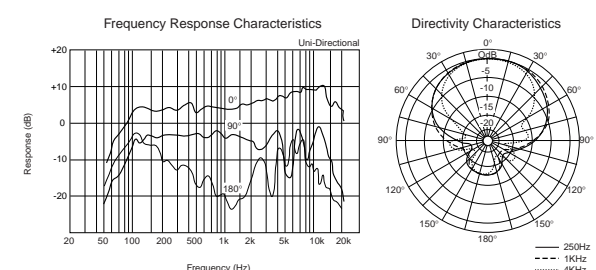


*Electret Condenser Microphone*

## ECM-670



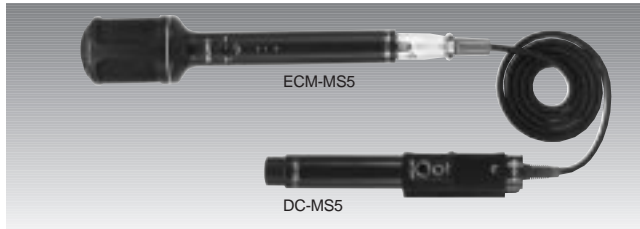
- Super-cardioid microphone with minimum sensitivity to ambient noise
- Compact and light weight design
- Suitable for mounting on Sony cameras and camcorders
- External power supply (DC 12 to 48 V)



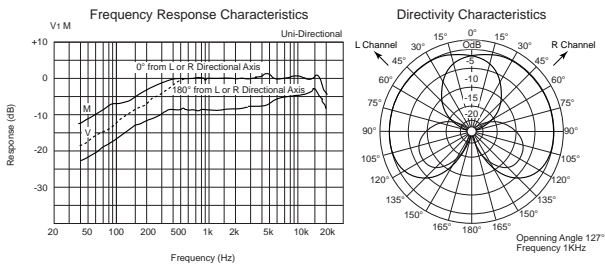
◆ *Wired Microphones*

*MS Stereo Electret Condenser Microphone*

**ECM-MS5**



- Compact and light MS (Mid-Side) stereo microphone
- 6-position stereo angle selector (0°, 90° to 127°)
- 2-way powering — external power supply or battery operation with optional DC-MS5



**Optional Accessory**

**DC-MS5**

DC Power Supply Unit

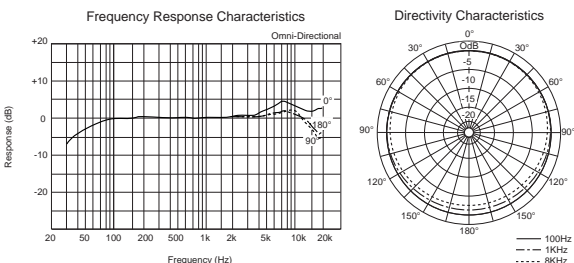
- Provides stable DC 12 V to ECM-MS5 (20 hours of continuous operation with a single AA-size battery)
- Built-in battery indicator

*Electret Condenser Microphone*

**ECM-510**



- Primarily for interview situations
- Ultra slim and lightweight body
- 2-way powering — internal AA-size battery or external power supply (DC 12 to 48 V)

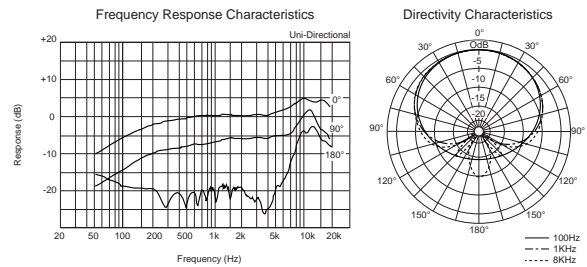


*Electret Condenser Microphone*

**ECM-530**



- A compact and high-quality table-top microphone
- The goose-neck and extendable stem allow flexible microphone positioning for precise voice pick-up
- 2-way powering system — internal AA-size battery or external power supply (DC 12 to 48 V)

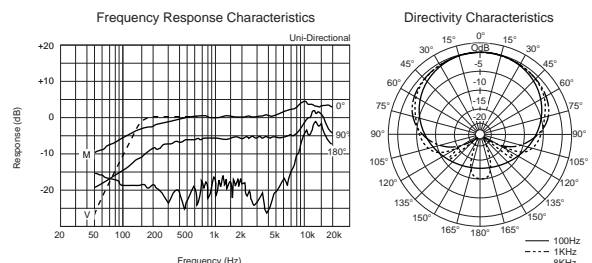


*Electret Condenser Microphone*

**ECM-531**



- Ideally suited for conference and lecture applications
- Flexible goose-neck for microphone positioning
- Equipped with a low-cut switch
- External power supply (DC 12 to 48 V)
- Directly installed in conference tables and lecterns via an XLR-3-12C type connector



## Lavalier Microphones

Lavalier Microphones

### ECM-77 Series



- 5.6 mm dia. x 12.5 mm ( $\frac{1}{4}$  inch dia. x  $\frac{1}{2}$  inch), 1.5 g (0.04 oz) microphone head
- High performance, frequency response 40 to 20,000 Hz
- 2-way powering — AA-size battery or external power supply (DC 12 to 48 V)

#### ECM-77S (Silver)/ECM-77B (Black)

- Complete with in-line battery unit for 2-way powering

#### ECM-77SC (Silver)/ECM-77BC (Black) /ECM-77FC (Beige Color Finish)

- Fitted with a 1.2 m cable terminating in a SMC9-4P connector for use with the Sony wireless transmitter

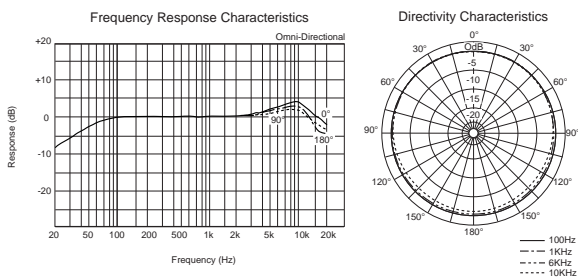
#### ECM-77BPT (Black)

#### /ECM-77FPT (Beige Color Finish)

- Pigtail connection, without battery unit or connector

#### ECM-77BMP (Black)

- Fitted with 1.2 m cable terminating in a 3-pole mini plug for use with the Sony wireless transmitter



Lavalier Microphones

### ECM-66 Series



- 10.6 mm dia. x 24.3 mm ( $\frac{7}{16}$  inch dia. x  $\frac{31}{32}$  inch), 7 g (0.24 oz) microphone head
- Designed for instrumental applications
- 2-way powering — AA-size battery or external power supply (DC 24 to 48 V)
- 130 dB SPL max. input sound pressure level

#### ECM-66B (Black)

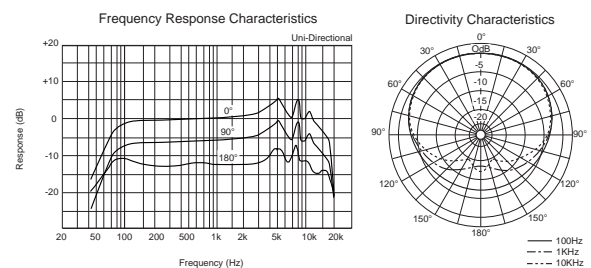
- Complete with in-line battery unit for 2-way powering

#### ECM-66BC (Black)

- Fitted with a 1.2 m cable terminating in a SMC9-4P connector for use with the Sony wireless transmitter

#### ECM-66BPT (Black)

- Pigtail connection, without battery unit or connector



*Lavalier Microphones*

## **ECM-55 Series**



- 10.6 mm dia. x 21 mm ( $7/16$  inch dia. x  $27/32$  inch), 6.5 g (0.2 oz) microphone head
- Frequency response tailored for enhanced presence and improved voice quality in lavalier applications
- 2-way powering — AA-size battery or external power supply (DC 12 to 48 V)

### **ECM-55B (Black)**

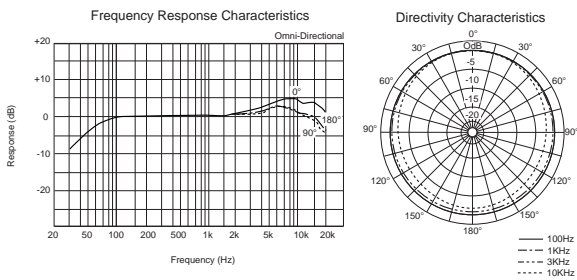
- Complete with in-line battery unit for 2-way powering

### **ECM-55BC (Black)**

- Fitted with a 1.2 m cable terminating in a SMC9-4P connector for use with the Sony wireless transmitter

### **ECM-55BPT (Black)**

- Pigtail connection, without battery unit or connector



*Lavalier Microphones*

## **ECM-44 Series**



- 8.5 mm dia. x 14.5 mm ( $11/32$  inch dia. x  $19/32$  inch), 2 g (0.07 oz) microphone head
- Excellent cost/performance ratio
- AA-size battery operation

### **ECM-44B (Black)**

- Complete with in-line battery unit

### **ECM-44BC (Black)**

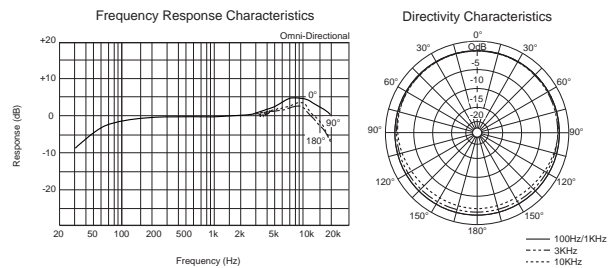
- Fitted with a 1.2 m cable terminating in a SMC9-4P connector for use with the Sony wireless transmitter

### **ECM-44BPT (Black)**

- Pigtail connection, without battery unit or connector

### **ECM-44BMP (Black)**

- Fitted with a 1.2 m cable terminating in a 3-pole mini plug for use with the Sony wireless transmitter



*Lavalier Microphone*

## **ECM-121BMP**



- Omni-directional
- Mic head 8.5 mm dia. x 17 mm (<sup>11</sup>/<sub>32</sub> inch dia. x <sup>11</sup>/<sub>16</sub> inch)
- Mass (microphone only, without cable): 3 g (0.1 oz)
- New 3.5 mm dia. (<sup>5</sup>/<sub>32</sub> inch dia.) 3-pole mini phone plug with lock mechanism
- Mic cable length: 0.2 m (<sup>7</sup>/<sub>8</sub> inches)

*Lavalier Microphone*

## **ECM-166BC**



- 12.5 mm dia x 23.5 mm (<sup>1</sup>/<sub>2</sub> inch dia. x <sup>15</sup>/<sub>16</sub> inch), 3.5 g (0.12 oz) microphone head
- Uni-directional
- SMC9-4P connector for connection to Sony wireless transmitters

*Lavalier Microphone*

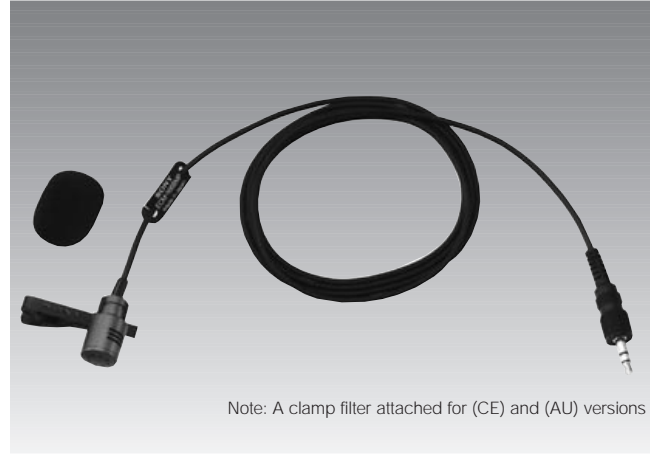
## **ECM-122BMP**



- Omni-directional
- Mic Head 8.5 mm dia. x 17 mm (<sup>11</sup>/<sub>32</sub> inch dia. x <sup>11</sup>/<sub>16</sub> inch)
- Mass (microphone only, without cable): 3 g (0.1 oz)
- New 3.5 mm dia. (<sup>5</sup>/<sub>32</sub> inch dia.) 3-pole mini phone plug with lock mechanism
- Mic cable length: 1.2 m (3.9 feet)

*Lavalier Microphone*

## **ECM-166BMP**



Note: A clamp filter attached for (CE) and (AU) versions

- Uni-directional — resistant to howling by rejecting indirect sound
- Mic head 12.5 mm dia. x 23.5 mm (<sup>1</sup>/<sub>2</sub> inch dia. x <sup>15</sup>/<sub>16</sub> inch)
- Ideal for institutional uses and sound contracting applications such as speeches, lectures and conferences
- 3-pole mini plug with a lock mechanism



## Headset Microphones

### *Headset Microphone*

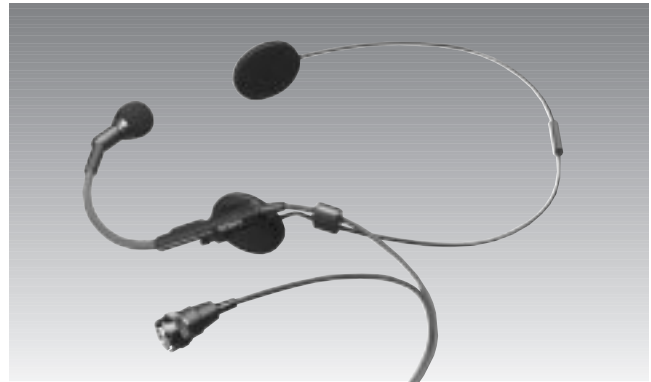
## **ECM-310BC**



- Headset-style microphone for sound reinforcement applications
- Fitted with a wide-cardioid microphone, which provides crisp and clear sound while isolating desired sound from surrounding ambience
- Designed for use with the WRT-822A UHF Synthesized Transmitter (also suitable for use with the WRT-860A model)
- Adjustable hinge and goose-neck for a wide range of adjustment
- Unobtrusive, anti-slide headband
- SMC9-4P connector to interface with Sony wireless transmitters

### *Headset Microphone*

## **ECM-350BC**



- Headset-style microphone for TV/sound reinforcement applications
- Fitted with an omni-directional microphone, which reduces pop-noises and allows optimum sound pick-up and enhanced intelligibility under almost any situation
- Designed for use with the WRT-860A UHF Synthesized Transmitter (also suitable for use with the WRT-822A model)
- Lightweight and with flexible microphone positioning for optimum vocal pick-up
- Unobtrusive, anti-slide headband
- SMC9-4P connector to interface with Sony wireless transmitters

### *Headset Microphone*

## **ECM-310BMP**

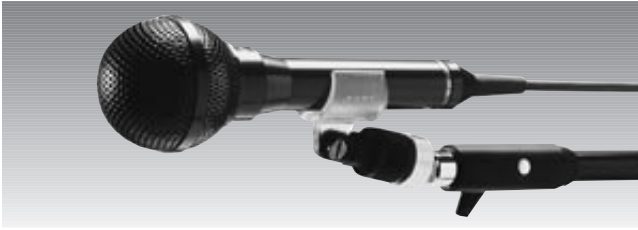


- Headset-style microphone
- Fitted with a wide-cardioid capsule for sensitivity and noise rejection
- Designed for use with WRT-805A UHF Synthesized Transmitter
- Adjustable hinge and goose-neck for perfect positioning
- Unobtrusive, anti-slide headband
- New 3.5 mm dia. (<sup>5</sup>/<sub>32</sub> inch dia.) 3-pole mini phone plug with lock mechanism
- Microphone cable length: 1.2 m (3.9 feet)

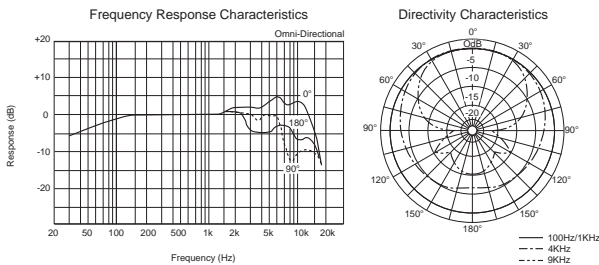
# Dynamic Microphones

## Dynamic Microphone

### F-115



- Weather resistant for outdoor applications
- Ideal for reporter use
- Frequency response: 40 to 12,000 Hz

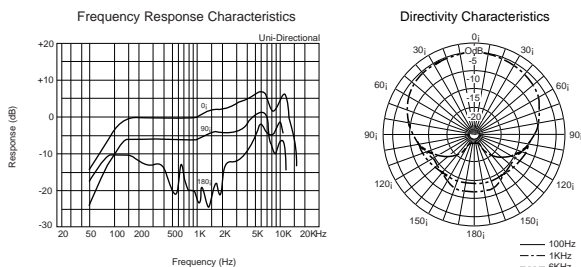


## Dynamic Microphone

### F-710



- For multi-purpose applications
- Built-in TALK switch
- High sensitivity with the Neodymium magnet
- XLR-3-12C type connector
- Frequency response: 70 to 15,000 Hz
- Dimensions: 54 mm dia. x 177 mm (2 1/4 inches dia. x 7 inches)
- Mass: 250 g (8.8 oz)

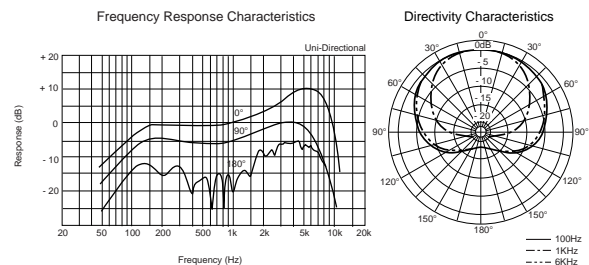


## Dynamic Microphone

### F-720



- For multi-purpose applications
- Convenient TALK switch for turning on and off the microphone
- Vibration proof capsule suspension
- XLR-3-12C type connector
- Frequency response: 50 to 13,000 Hz
- Dimensions: 37.6 mm dia. x 160 mm (1 1/2 inches dia. x 6 3/8 inches)
- Mass: 260 g (9.2 oz)

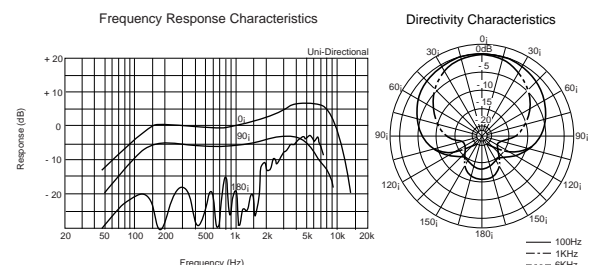


## Dynamic Microphone

### F-730



- For vocal applications
- Convenient TALK switch for turning on and off the microphone
- Vibration-proof capsule suspension
- XLR-3-12C type connector
- Frequency response: 50 to 13,000 Hz
- Dimensions: 44.4 mm dia. x 166 mm (1 3/4 inches dia. x 6 5/8 inches)
- Mass: 250 g (8.8 oz)



## ◆ *Wired Microphones*

### *Dynamic Microphone*

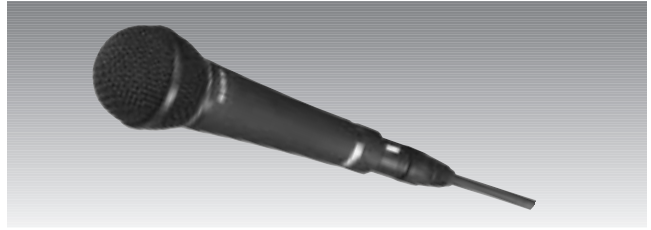
## **F-740**



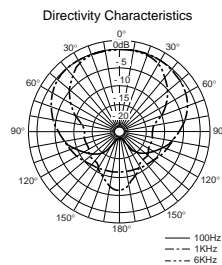
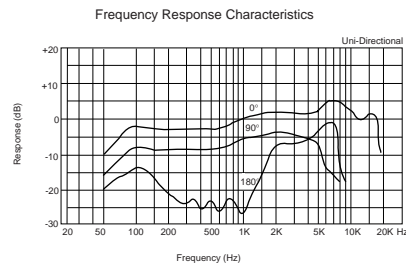
- For vocal and instrumental pick-up
- Rugged capsules in a resilient body structure
- Special AlNiCo Magnet
- High quality CCAW (Copper Clad Aluminium Wire) voice coil
- XLR-3-12C type connector
- Frequency response: 50 to 18,000 Hz
- Dimensions: 51 mm dia. x 165 mm (2 1/8 inches dia. x 6 1/2 inches)
- Mass: 290 g (10.2 oz)

### *Dynamic Microphone*

## **F-780**



- For vocal recording
- Rugged capsules in a resilient body structure
- Special AlNiCo Magnet
- High quality edgewise winding CCAW (Copper Clad Aluminium Wire) voice coil
- XLR-3-12C type connector
- Frequency response: 50 to 18,000 Hz
- Dimensions: 51 mm dia. x 165 mm (2 1/8 inches dia. x 6 1/2 inches)
- Mass: 290 g (10.2 oz)



## Microphone Accessories

### AC-148F

AC Power Supply



- System: 2-channel external power supply
- Power requirements: AC 220 to 240 V, 50/60 Hz
- Output voltage: DC 48 V
- Dimensions: 201 (W) x 74 (H) x 169 (D) mm (8 x 3 x 6 3/4 inches)
- Mass: 2 kg (4 lb 7 oz)

### A-12

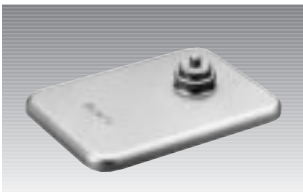
Table Stand



- Available screw: U<sup>5</sup>/<sub>16</sub>-inch thread  
PF<sup>1</sup>/<sub>2</sub>-inch thread
- Mass: 1.4 kg (3 lb 1 oz)

### A-25

Table Stand



- Available screw: U<sup>5</sup>/<sub>16</sub>-inch thread  
PF<sup>1</sup>/<sub>2</sub>-inch thread
- Mass: 1.0 kg (2 lb 3 oz)

### A-25N

Table Stand

- Available screw: NS<sup>5</sup>/<sub>8</sub>-inch thread
- Mass: 1.0 kg (2 lb 3 oz)

### SAD-26

Microphone Stand Pole



- Available screw: U<sup>5</sup>/<sub>16</sub>-inch thread  
PF<sup>1</sup>/<sub>2</sub>-inch thread (male)  
PF<sup>1</sup>/<sub>2</sub>-inch thread (female)
- Height: 120 mm (4 3/4 inches)

### SAD-28

Shock-mounted Adaptor



- Available screw: U<sup>5</sup>/<sub>16</sub>-inch thread  
PF<sup>1</sup>/<sub>2</sub>-inch thread (male)  
PF<sup>1</sup>/<sub>2</sub>-inch thread (female)

### EC-10XLR2/5XLR2

Microphone Cable

- Cable length: 10 m (32.8 feet) or 5 m (16.4 feet)
- Connectors: XLR-3-11C type ↔ XLR-3-12C type

### CRS-3P

Cradle Suspension



- Available screw: PF<sup>1</sup>/<sub>2</sub>-inch thread
- Supplied stand screw adaptor: NS<sup>5</sup>/<sub>8</sub>-inch thread
- Grip: 19 to 24 mm dia. (3/4 to 31/32 inch dia.)
- Mass: 150 g (5.3 oz)

### SAD-700

Microphone Holder



- Available screw: PF<sup>1</sup>/<sub>2</sub>-inch thread
- Grip: 24 mm dia. (31/32 inch dia.)
- Mass: 70 g (2.5 oz)

### Batteries

Sony	IEC	MEDIA No.	Eveready	Voltage
S-006P (U)	6F-22	1604	216	9 V
006P (Alkaline)	—	1604A	522	9 V
SUM-1(NS)	P20	13D	1250	1.5 V
SUM-3(NS)	R6P	15D	1215	1.5 V
AM3	LR6	15A	E91	1.5 V
3CR-MIC	—	—	—	9 V

### B-305B

Boom Stand



- Available screw: PF<sup>1</sup>/<sub>2</sub>-inch thread, U<sup>5</sup>/<sub>16</sub>-inch thread
- Supplied stand screw adaptor: NS<sup>5</sup>/<sub>8</sub>-inch thread, W<sup>3</sup>/<sub>8</sub>-inch thread
- Boom length: 828 mm (32 5/8 inches)
- Stand height: 980 to 1500 mm (38 5/8 to 59 1/8 inches)
- Mass: 4.6 kg (10 lb 2 oz)

### B-500








Floor Stand



- Available screw: PF<sup>1</sup>/<sub>2</sub>-inch thread, U<sup>5</sup>/<sub>16</sub>-inch thread
- Supplied stand screw adaptor; NS<sup>5</sup>/<sub>8</sub>-inch thread, W<sup>3</sup>/<sub>8</sub>-inch thread
- Pole length: 880 to 1530 mm (34 3/4 x 60 1/4 inches) w/o stand adaptor
- Mass: 4.6 kg (10 lb 2 oz)

## ◆ Wired Microphones

### Holder Clips and Wind Screens

	Type		Finish	ECM-77	ECM-66	ECM-55	ECM-44	Remarks
Holder Clip	Single (Horizontal)		Black	SAD-H77B	SAD-H55B	SAD-H55B	SAD-H44B	10 pcs in each package
	Double (Horizontal)		Black	SAD-W77B	—	—	—	6 pcs in each package
	Single (Vertical)		Black	SAD-V77B	SAD-V55B	—	—	10 pcs in each package
	Safety Pin Type		Silver type	SAD-S77	SAD-S55	SAD-S55	—	6 pcs in each package
Power Supply Holder			Silver type	SAD-B100				3 pcs in apackage
Wind Screen	Metal		Silver type	AD-R77S	—	—	—	6 pcs in each package
			Black	AD-R77B	—	AD-R55B	—	
	Urethane		Black	—	AD-R66B	—	AD-R44B	12 pcs in each package
Urethane		6 colors	AD-C77	AD-C66	AD-C55	—	12 pcs in each package (6 colors x 2 pcs)	

## Specifications

### Lavalier Series

		ECM-44	ECM-55	ECM-66	ECM-77
Model Variations - Model name - Cable length - Output connector - Battery - Finish (B: Black, S: Silver, F: Beige)	Type A	Standard type: 3.0 m (3.9 feet) cable terminating in an XLR-3-12C type connector, battery equipped			
	Type B	44B			
		55B			
	Type C	66B			
Type D	Pig tail type: 3.0 m (3.9 feet) cable without connector, battery				
	44BPT				
Type C		55BPT			
Type D		—			
Type A		77BPT, 77FPT			
Type B, C, D		SMC type: 1.2 m (3.9 feet) cable terminating in a SMC9-4P type connector, without battery			
Type A		44BC			
Type B, C, D		55BC			
Type C		66BC			
Type D		77SC, 77BC, 77FC			
Type A		BMP type: 1.2 m (3.9 feet) cable terminating in a 3.5 mm dia. 3-pole mini plug, without battery			
Type B, C, D		44BMP			
Type C		—			
Type D		—			
Type A		77BMP			
Capsule Type		Electret Condenser	Electret Condenser	Electret Condenser	Electret Condenser
Frequency Response		40 to 15,000 Hz	30 to 18,000 Hz	70 to 14,000 Hz	40 to 20,000 Hz
Directivity		Omni-directional	Omni-directional	Uni-directional	Omni-directional
Sensitivity (0 dB=1 V/Pa, at 1 kHz)	Type A	-53.0 dB ±3 dB	-52.0 dB ±2 dB	-50.0 dB ±2 dB	-52.0 dB ±2 dB
	Type B, C, D	-40 dB (10 mV)	-38.5 dB (11.9 mV)	-36.5 dB (15 mV)	-39.0 dB (11.2 mV)
Output Impedance At 1 kHz	Type A	250 Ω ±20% (balanced)	100 Ω ±20% (balanced)	100 Ω ±20% (balanced)	150 Ω ±20% (balanced)
	Type B, C, D	—	—	—	—
Dynamic Range		≥ 90 dB	≥ 98 dB	≥ 101 dB	≥ 90 dB
Signal-to-noise Ratio (A-weighted, 1 kHz, 1 Pa.)		≥ 62 dB	≥ 66 dB	≥ 65 dB	≥ 64 dB
Inherent Noise (0 dB SPL=2 x 10 <sup>-5</sup> Pa.)		≤ 32 dB SPL	≤ 28 dB SPL	≤ 29 dB SPL	≤ 30 dB SPL
Wind Noise (w/wind screen, at 2 m/s) (0 dB SPL=2 x 10 <sup>-5</sup> Pa.)		≤ 40 dB SPL	≤ 40 dB SPL	≤ 50 dB SPL	≤ 40 dB SPL
Induction Noise from External Magnetic Field (dB SPL/1 x 10 <sup>-7</sup> T) (0 dB SPL=2 x 10 <sup>-5</sup> Pa.)		≤ 5 dB SPL	≤ 5 dB SPL	≤ 5 dB SPL	≤ 5 dB SPL
Maximum Input Sound Pressure Level (0 dB SPL=2 x 10 <sup>-5</sup> Pa.)		122 dB SPL	126 dB SPL	130 dB SPL	120 dB SPL
Power Supply	Battery	SUM-3 (NS) (1.5 V)	SUM-3 (NS) (1.5 V)	SUM-3 (NS) (1.5 V)	SUM-3 (NS) (1.5 V)
	Battery Life	Approx. 5000 H	Approx. 5000 H	Approx. 300 H	Approx. 5000 H
	Ext. Power	—	DC 12 to 48 V	DC 24 to 48 V	DC 12 to 48 V
Normal Operating Voltage		Type A: DC 1.5 V, Type B, C, D: DC 3 V (supply range: DC 3 - 10 V)			
Current Drain		Less than 0.3 mA	Less than 3.5 mA	Less than 0.3 mA	Less than 0.4 mA
Dimensions	Microphone Head	8.5 mm dia. x 14.5 mm ( <sup>11</sup> / <sub>32</sub> inch dia. x <sup>19</sup> / <sub>32</sub> inch)	10.6 mm dia. x 21 mm ( <sup>7</sup> / <sub>16</sub> inch dia. x <sup>27</sup> / <sub>32</sub> inch)	10.6 mm dia. x 24.2 mm ( <sup>7</sup> / <sub>16</sub> inch dia. x <sup>31</sup> / <sub>32</sub> inch)	5.6 mm dia. x 12.5 mm ( <sup>1</sup> / <sub>4</sub> inch dia. x <sup>1</sup> / <sub>2</sub> inch)
	Power Unit	20.0 mm dia. x 126 mm ( <sup>13</sup> / <sub>16</sub> inch dia. x 5 inches)	20.0 mm dia. x 133 mm ( <sup>13</sup> / <sub>16</sub> inch dia. x 5 <sup>1</sup> / <sub>4</sub> inches)	20.0 mm dia. x 163 mm ( <sup>13</sup> / <sub>16</sub> inch dia. x 6 <sup>2</sup> / <sub>1</sub> inches)	20.0 mm dia. x 133 mm ( <sup>13</sup> / <sub>16</sub> inch dia. x 5 <sup>1</sup> / <sub>4</sub> inches)
Mass	Microphone Head	2 g (0.07 oz)	6.5 g (0.23 oz)	7 g (0.25 oz)	1.5 g (0.05 oz)
	Total	121 g (4.3 oz)	127 g (4.5 oz)	167 g (5.9 oz)	122 g (4.3 oz)
Supplied Accessories (S: Single type, V: Vertical type, M: Metal-mesh type, U: Urethane type)		S.H. holder clip (x 1) U. wind screen (x 1) Microphone case (x 1)	S.H. holder clip (x 1) S.V. holder clip (x 1) M wind screen (x 1) Microphone case (x 1)	S.H. holder clip (x 1) S.V. holder clip (x 1) U. wind screen (x 1) Microphone case (x 1)	S.H. holder clip (x 1) S.V. holder clip (x 1) M. wind screen (x 1) Microphone case (x 1)

		ECM-121	ECM-122	ECM-166	ECM-310	ECM-350
Model Variations - Model name - Cable length - Output connector - Battery - Finish (B: Black, S: Silver, F: Beige)	Type A	Standard type: 3.0 m (3.9 feet) cable terminating in an XLR-3-12C type connector, battery equipped				
	Type B	Pig tail type: 3.0 m (3.9 feet) cable without connector, battery				
	Type C	SMC type: 1.2 m (3.9 feet) cable terminating in a SMC9-4P type connector, without battery				
	Type D	BMP type: 1.2 m (3.9 feet) cable terminating in a 3.5 mm dia. 3-pole mini plug, without battery				
Capsule Type		Electret Condenser	Electret Condenser	Electret Condenser	Electret Condenser	Electret Condenser
Frequency Response		100 to 10,000 Hz	100 to 10,000 Hz	100 to 10,000 Hz	70 to 12,000 Hz	40 to 15,000 Hz
Directivity		Omni-directional	Omni-directional	Uni-directional	Wide-cardioid	Omni-directional
Sensitivity (0 dB=1 V/Pa, at 1 kHz)	Type A	—	—	—	—	—
	Type B, C, D	-41 dB (8.9 mV)	-41 dB (8.9 mV)	-45 dB (5.6 mV)	-44 dB (6.3 mV) ±3 dB	-40 dB (10 mV) ±3 dB
Output Impedance At 1 kHz	Type A	—	—	—	—	—
	Type B, C, D	2.5 kΩ ±30% (unbalanced)	2.5 kΩ ±30% (unbalanced)	2.5 kΩ ±30% (unbalanced)	800 Ω ±30% (unbalanced)	2.5 kΩ ±30% (unbalanced)
Dynamic Range		—	—	≥ 96 dB	≥ 93 dB	≥ 100 dB
Signal-to-noise Ratio (A-weighted, 1 kHz, 1 Pa.)		—	—	≥ 60 dB	≥ 60 dB	≥ 62 dB
Inherent Noise		—	—	≤ 34 dB SPL	≤ 34 dB SPL	≤ 32 dB SPL
Wind Noise (w/wind screen, at 2 m/s) (0 dB SPL=2 x 10 <sup>-5</sup> Pa.)		—	—	—	≤ 63 dB SPL	≤ 40 dB SPL
Induction Noise from External Magnetic Field- (dB SPL/1 x 10 <sup>-7</sup> T) (0 dB SPL=2 x 10 <sup>-5</sup> Pa.)		—	—	—	—	—
Maximum Input Sound Pressure Level (0 dB SPL=2 x 10 <sup>-5</sup> Pa.)		—	—	130 dB SPL	127 dB SPL	132 dB SPL
Power Supply	Battery	—	—	—	—	—
	Battery Life	—	—	—	—	—
	Ext. Power	—	—	—	—	—
Normal Operating Voltage		DC 3 V (supply range: DC 3 - 10 V)			DC 5 V (supply range: DC 3 - 10 V)	
Current Drain		Less than 0.4 mA			Less than 0.32 mA	Less than 0.3 mA
Dimensions	Microphone Head	8.5 mm dia. x 17.0 mm (1 <sup>1</sup> / <sub>32</sub> inch dia. x 1 <sup>1</sup> / <sub>16</sub> inch)	8.5 mm dia. x 17.0 mm (1 <sup>1</sup> / <sub>32</sub> inch dia. x 1 <sup>1</sup> / <sub>16</sub> inch)	12.5 mm dia. x 23.5 mm (1/2 inch dia. x 1 <sup>5</sup> / <sub>16</sub> inch)	10.0 mm dia. x 152 mm (1 <sup>3</sup> / <sub>32</sub> inch dia. x 5 <sup>7</sup> / <sub>8</sub> inch)	8.5 mm dia. x 15.6 mm (1 <sup>1</sup> / <sub>32</sub> inch dia. x 5 <sup>5</sup> / <sub>8</sub> inch)
	Power Unit	—	—	—	—	—
Mass	Microphone Head	3 g (0.11 oz)	3 g (0.11 oz)	3.5 g (0.12 oz)	—	—
	Total	—	—	—	46 g (17 oz)	44 g (1.6 oz)
Supplied Accessories (S: Single type, V: Vertical type, M: Metal-mesh type, U: Urethane type)		Holder clip (x 1) U. wind screen (x 1)	Holder clip (x 1) U. wind screen (x 1)	U. wind screen (x 1) Holder clip (x 1)	U. wind screen (x 1)	U. wind screen (x 1)

## Specifications

### C-Series

		<b>C-800G</b>	<b>C-800</b>	<b>C-38B</b>	<b>C-48</b>	<b>C-76</b>	<b>C-74</b>	<b>C-535P/536P</b>
Capsule Type		Condenser	Condenser	Condenser	Condenser	Condenser	Condenser	Condenser
Frequency Response		20 to 18,000 Hz	20 to 20,000 Hz	30 to 18,000 Hz	30 to 16,000 Hz	40 to 16,000 Hz	40 to 16,000 Hz	30 to 16,000 Hz
Directivity		UNI/OMNI	UNI/OMNI	UNI/OMNI	UNI/OMNI/BI	UNI	UNI	UNI
Effective Output Level at 1 kHz (0 dBm=1 mW/1 Pa.)		-28.0 dBm (Uni) -31.0 dBm (Omni)	-44.0 dBm (Uni) -46.0 dBm (Omni)	-47.8 dBm	-38.8 dBm (Uni) -39.3 dBm (Omni) -38.3 dBm (Bi)	-38.0 dBm	-38.0 dBm	-40.0 dBm
Sensitivity (0 dB=1 V/1 Pa, at 1 kHz)		-32.0 dB ± 2.0 dB (Uni) -35.0 dB ± 2.0 dB (Omni)	-45.0 dB ± 2.0 dB (Uni) -47.0 dB ± 2.0 dB (Omni)	-48.0 dB ± 2.0 dB	-41.0 dB ± 2.0 dB (Uni) -41.5 dB ± 2.0 dB (Omni) -40.5 dB ± 2.0 dB (Bi)	-38.0 dB ± 2.0 dB	-38.0 dB ± 2.0 dB	-41.0 dB ± 2.0 dB
Output Impedance At 1 kHz (balanced)		100 Ω ± 20%	200 Ω ± 20%	250 Ω ± 20%	150 Ω ± 20%	250 Ω ± 20%	250 Ω ± 20%	200 Ω ± 20%
Dynamic Range		≥ 113 dB	≥ 126 dB	≥ 116 dB	≥ 106 dB	≥ 112 dB	≥ 112 dB	≥ 116 dB
Signal-to-noise Ratio (A weighted, 1 kHz, 1 Pa.)		≥ 76 dB (Uni) ≥ 73 dB (Omni)	≥ 70 dB (Uni) ≥ 68 dB (Omni)	≥ 70 dB	≥ 72 dB	≥ 80 dB	≥ 80 dB	≥ 72 dB
Inherent Noise (0 dB SPL=2 x 10 <sup>-5</sup> Pa.)		≤ 18 dB SPL (Uni)	≤ 24 dB SPL (Uni) ≤ 21 dB SPL (Omni)	≤ 24 dB SPL ≤ 26 dB SPL (Omni)	≤ 22 dB SPL	≤ 14 dB SPL	≤ 14 dB SPL	≤ 22 dB SPL
Induction Noise From ext. Magnetic Field (0 dB SPL=2 x 10 <sup>-5</sup> Pa.) (dB SPL/1 x 10 <sup>-7</sup> T)		≤ 0 dB SPL	≤ 0 dB SPL	≤ 5 dB SPL	≤ 0 dB SPL	≤ 5 dB SPL	≤ 5 dB SPL	≤ 5 dB SPL
Wind Noise (0 dB SPL=2 x 10 <sup>-5</sup> Pa.)		≤ 50 dB SPL	≤ 55 dB SPL	≤ 44 dB SPL	≤ 47 dB SPL	≤ 50 dB SPL	≤ 50 dB SPL	≤ 70 dB SPL (535P) ≤ 60 dB SPL (536P)
Max. Input Sound Pressure Level (0 dB SPL=2 x 10 <sup>-5</sup> Pa.)		131 dB SPL (Uni) 134 dB SPL (Omni)	150 dB SPL (Uni) 152 dB SPL (Omni)	140 dB SPL	128 dB SPL	126 dB SPL	126 dB SPL	138 dB SPL
Mic Attenuator		—	—	-8 dB	-10 dB	—	—	-10 dB
Tone Control	Low-cut	—	—	M, M1, V1, V2	M, V	M, M1, V1	M, M1, V1	—
	High-cut	—	—	1	—	—	—	—
Power Supply	Battery	AC-MC800G (Optional)	AC-MC800 (Optional)	S-006P (U)	S-006P (U)	3CR-MIC	3CR-MIC	—
	Ext. Power			O	O	O	O	O
Standard	Battery			9 V	9 V	9 V	9 V	—
Operating Voltage	Ext. Power			DC24-48	DC48	DC24-48	DC24-48	DC48
	Current Drain			Battery	≤ 2 mA	≤ 5 mA	≤ 5 mA	≤ 5 mA
	Ext. Power			≤ 5 mA	≤ 1 mA	≤ 9 mA	≤ 9 mA	≤ 2 mA
Dimensions	mm	57 dia. x 191 x 237	57 dia. x 196	78 dia. x 214 x 46	54 dia. x 229 x 40	25 dia. x 678	25 dia. x 427	21 dia. x 154
	inch	2 1/4 dia. x 7 3/8 x 9 3/8	2 1/4 dia. x 7 3/4	3 1/8 dia. x 8 1/2 x 1 13/16	2 1/4 dia. x 9 1/8 x 1 5/8	1 dia. x 26 3/4	1 dia. x 16 7/8	27/32 dia. x 6 1/8
Mass *1 (Approx)		900 g	590 g	650 g	550 g	420 g	360 g	138 g (535P) 148 g (536P)
		2 lb	1 lb 5 oz	1 lb 7 oz	1 lb 4 oz	14.8 oz	12.7 oz	4.9 oz (535P) 5.3 oz (536P)
Supplied Accessories		Wind screen (x 1) Cradle suspension (x 1) Stand screw adaptor (PF1/2-inch thread→ NS5/8-inch thread) (x 1) Stand screw adaptor (PF1/2-inch thread→ W3/8-inch thread) (x 1) Mic cable (x 1) Carrying case (x 1) G Sticker (x 1) Frequency response chart (x 2)	Wind screen (x 1) Cradle suspension (x 1) Stand screw adaptor (PF1/2-inch thread→ NS5/8-inch thread) (x 1) Stand screw adaptor (PF1/2-inch thread→ W3/8-inch thread) (x 1) Mic cable (x 1) Carrying case (x 1) Screwdriver (x 1) Frequency response chart (x 2)	Carrying case (x 1) Screwdriver (x 1) Stand adaptor (x 2)	Carrying case (x 1) Stand adaptor (x 2)	Wind screen (x 1)	Wind screen (x 1)	Wind screen (x 1) Microphone holder (x 1) Carrying case (x 1) Stand adaptor (x 2)
Remarks		Vacuum Tube	Vacuum Tube	—	—	Shotgun Microphone	Shotgun Microphone	—

\*1 Without the battery for condenser and electret condenser microphones.

	<b>C-800G</b>	<b>C-800</b>	<b>C-38B</b>	<b>C-48</b>	<b>C-76</b>	<b>C-74</b>	<b>C-535P/536P</b>
Microphone Connector	CNR-01 type (7-pin)	XLR-6A type	XLR-3-12C type	XLR-3-12C type	XLR-3-12C type	XLR-3-12C type	XLR-3-12C type
Supplied Cable	JIS CNR-01 type (7-pin)	XLR-6A-11C type ↔XLR-6A-12C type	—	—	—	—	—
Cable Length	8 m	8 m	6 m	—	—	—	—
Available Receptacle	—	—	XLR-3-11C type	XLR-3-11C type	XLR-3-11C type	XLR-3-11C type	XLR-3-11C type
External Power Supply (AC-148F) or Equivalent	—	—	Yes	Yes	Yes	Yes	Yes
Recommended Sony Battery	—	—	S-006P (U)	S-006P (U)	3CR-MIC	3CR-MIC	—
Battery Life (Approx.)	—	—	200 H	50 H	30 H	30 H	—
Supplied Mic Holder	—	—	—	—	—	—	Yes
Stand Screw/ Mic Holder Screw	PF 1/2-inch thread	PF 1/2-inch thread	PF 1/2-inch thread	PF 1/2-inch thread	—	—	PF 1/2-inch thread
Supplied Stand Adaptor	NS <sup>5</sup> / <sub>8</sub> -inch thread W <sup>3</sup> / <sub>8</sub> -inch thread	NS <sup>5</sup> / <sub>8</sub> -inch thread W <sup>3</sup> / <sub>8</sub> -inch thread	NS <sup>5</sup> / <sub>8</sub> -inch thread W <sup>3</sup> / <sub>8</sub> -inch thread	NS <sup>5</sup> / <sub>8</sub> -inch thread W <sup>3</sup> / <sub>8</sub> -inch thread	—	—	NS <sup>5</sup> / <sub>8</sub> -inch thread W <sup>3</sup> / <sub>8</sub> -inch thread
Mounting on A-12 (Available screw PF 1/2-inch thread, U <sup>5</sup> / <sub>16</sub> -inch thread)	—	Yes	Yes	Yes	—	—	Yes
Mounting on A-25 (Available screw U <sup>5</sup> / <sub>16</sub> -inch thread, PF 1/2-inch thread)	—	—	Not recommended		—	—	Yes
Mounting on A-25N (Available screw NS <sup>5</sup> / <sub>8</sub> -inch thread)	—	—	Not recommended		—	—	Yes
Mounting on CRS-3P	—	—	No	No	No	Yes	Yes



## Specifications

### ECM-Series

	ECM-670	ECM-672	ECM-MS5	ECM-999PR	ECM-23F3PR	ECM-510	ECM-530	ECM-531
Capsule Type	Electret Condenser	Electret Condenser	Electret Condenser	Electret Condenser	Electret Condenser	Electret Condenser	Electret Condenser	Electret Condenser
Frequency Response	70 to 16,000 Hz	50 to 16,000 Hz	70 to 20,000 Hz	20 to 20,000 Hz	20 to 20,000 Hz	40 to 17,000 Hz	70 to 18,000 Hz	70 to 18,000 Hz
Directivity	UNI	UNI	UNI	UNI	UNI	OMNI	UNI	UNI
Effective Output Level at 1 kHz, (0 dBm=1 mW/1 Pa.)	-43.0 dBm	-42.0 dBm	-37.8 dBm (0°) -34.8 dBm (127°)	-51.0 dBm (120°)	-47.0 dBm	-50.0 dBm	-46.8 dBm	-42.8 dBm
Sensitivity (0 dB SPL=1 V/1 Pa., at 1 kHz)	-44.0 dB ± 3.0 dB	-42.0 dB ± 2.0 dB	-40.0 dB ± 2.0 dB (0°) -37.0 dB ± 2.0 dB (127°)	-48.0 dB (120°)	-48.0 dB	-50.0 dB ± 2.0 dB	-49.0 dB ± 3.0 dB	-49.0 dB ± 3.0 dB
Output Impedance at 1 kHz (balanced)	200 Ω ± 20%	250 Ω ± 20%	150 Ω ± 20%	480 Ω ± 20%	200 Ω ± 20%	250 Ω ± 20%	150 Ω ± 20%	60 Ω ± 20%
Dynamic Range	≥ 101 dB	≥ 92 dB	≥ 108 dB	≥ 104 dB	≥ 110 dB	≥ 97 dB	≥ 95 dB	≥ 100 dB
Signal-to-noise Ratio (A weighted, 1 kHz, 1 Pa.)	≥ 70 dB	≥ 72 dB	≥ 74 dB (0°) ≥ 72 dB (127°)	≥ 68 dB (120°)	≥ 70 dB	≥ 65 dB	≥ 63 dB	≥ 64 dB
Inherent Noise (0 dB SPL=2 x 10 <sup>-5</sup> Pa.)	≤ 24 dB SPL	≤ 22 dB SPL	≤ 20 dB SPL (0°)	≤ 26 dB SPL (120°) ≤ 22 dB SPL (127°)	≤ 24 dB SPL	≤ 29 dB SPL	≤ 31 dB SPL	≤ 30 dB SPL
Induction Noise from Ext. Magnetic Field (dB SPL/1 x 10 <sup>-7</sup> T, (0 dB SPL=2 x 10 <sup>-5</sup> Pa.)	≤ 0 dB SPL	≤ 0 dB SPL	≤ 0 dB SPL	≤ 10 dB SPL	≤ 5 dB SPL	≤ 5 dB SPL	≤ 5 dB SPL	≤ 5 dB SPL
Wind Noise (0 dB SPL=2 x 10 <sup>-5</sup> Pa.)	≤ 60 dB SPL	≤ 45 dB SPL	≤ 54 dB SPL	≤ 50 dB SPL	≤ 45 dB SPL	≤ 40 dB SPL	≤ 55 dB SPL	≤ 57 dB SPL
Max. Input Sound Pressure Level (0 dB SPL=2 x 10 <sup>-5</sup> Pa.)	125 dB SPL	114 dB SPL	130 dB SPL	130 dB SPL	134 dB SPL	126 dB SPL	126 dB SPL	130 dB SPL
Tone Control	Low-cut	—	M,V	M,V	M,V	—	—	M,V
	High-cut	—	—	—	—	—	—	—
Power Supply	Battery power	—	IECR6 or LR6	DC-MS5 (Optional)	SUM-3 (NS)	SUM-3 (NS)	IECR6 or LR6	IECR6 or LR6
	Ext. power	O	O	O	—	—	O	O
Standard Operating Voltage	Battery	—	1.5 V	1.5 V/DC-MS5 (Optional)	1.5 V	1.5 V	1.5 V	1.5 V
	Ext. power	DC12-48	DC48	DC12-48	—	—	DC12-48	DC12-48
Current Drain	Battery	—	≤ 0.3 mA	≤ 1.75 mA x 2/DC-MS5 (DC12 V) (Optional)	≤ 11.0 mA	≤ 5 mA	≤ 0.23 mA	≤ 0.23 mA
	AC power	≤ 2.4 mA	≤ 0.5 mA	≤ 2 mA x 2 (DC48 V)	—	—	≤ 2 mA	≤ 2 mA
Dimensions	mm	21 dia. x 226	24 dia. x 304	47.5 dia. x 212	40 dia. x 246	27 dia. x 190	Max. 23 dia. x 326 to 448 8.5 dia. x 364	12 dia. x 326 to 448 86 dia. (Table Stand)
	inch	<sup>27</sup> / <sub>32</sub> dia. x 9	<sup>31</sup> / <sub>32</sub> dia. x 12	1 <sup>7</sup> / <sub>8</sub> dia. x 8 <sup>3</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub> dia. x 9 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>6</sub> dia. x 7 <sup>1</sup> / <sub>2</sub>	Max. <sup>29</sup> / <sub>32</sub> dia. x 14 <sup>3</sup> / <sub>8</sub>	<sup>1</sup> / <sub>2</sub> dia. x 12 <sup>7</sup> / <sub>8</sub> to 17 <sup>3</sup> / <sub>8</sub> 3 <sup>1</sup> / <sub>2</sub> dia. (Table stand)
Mass *		165 g	230 g	215 g	366 g	215 g	125 g	325 g
		5.8 oz	8.1 oz	7.6 oz	13 oz	7.6 oz	4.4 oz	11.5 oz
Supplied Accessories *2	Wind screen (x 1) Microphone holder (x 1) Microphone spacer (x 1) Stand adaptor (x 2)	Wind screen (x 1)	Wind screen (x 1) Microphone holder (x 1) Microphone cable (x 1) Stand adaptor (x 1)	Wind screen (x 1) Microphone holder (x 1) Microphone cable (x 1) Stand adaptor (x 2)	Wind screen (x 1) Microphone holder (x 1) Microphone cable (x 1) Stand adaptor (x 2)	Wind screen (x 1) Microphone holder (x 2) Microphone cable (x 1) Stand adaptor (x 2) Carrying case (x 1)	Wind screen (x 1) Microphone holder (x 1) Stand adaptor (x 2)	Wind screen (x 1)
Remarks	Short Shotgun	Short Shotgun	MS Stereo	MS Stereo	—	—	—	—

\* Without the battery for condenser and electret condenser microphones.

	<b>ECM-670</b>	<b>ECM-672</b>	<b>ECM-MS5</b>	<b>ECM-999PR</b>	<b>ECM-23F3PR</b>	<b>ECM-510</b>	<b>ECM-530</b>	<b>ECM-531</b>
Microphone Connector	XLR-3-12C type	XLR-3-12C type	XLR-5-12C type	XLR-5-12C type	XLR-3-12C type	XLR-3-12C type	XLR-3-12C type	XLR-3-12C type
Supplied Cable	—	—	XLR-5-11C type ↓ XLR-3-12C type	XLR-5-11C type ↓ XLR-3-12C type (x 2)	XLR-3-11C type ↓ Phone plug	—	—	—
Cable Length	—	—	3 m	2.5 m	6 m	—	2 m	—
Available Receptacle	XLR-3-11C type	XLR-3-11C type	XLR-3-11C type	XLR-3-11C type	Phone jack	XLR-3-11C type	XLR-3-11C type	XLR-3-11C type
External Power Supply (AC-148F) of Equivalent	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Recommended Sony Battery	—	SUM-3 (NS)	LR6 (Alkaline)	SUM-3 (NS)	SUM-3 (NS)	SUM-3 (NS)	SUM-3 (NS)	—
Battery Life (Approx.)	—	3,000 H	20 H	80 H	150 H	5,000 H	5,000 H	—
Supplied Mic Holder	Yes	—	Yes	Yes	Yes	Yes	—	—
Stand Screw/ Mic Holder Screw	PF1/2-inch thread	—	PF1/2-inch thread	PF 1/2-inch thread	PF1/2-inch thread	PF1/2-inch thread	—	—
Supplied Stand Adaptor	NS5/8-inch thread W3/8-inch thread	—	NS5/8-inch thread W3/8-inch thread	NS5/8-inch thread W3/8-inch thread	NS5/8-inch thread W3/8-inch thread	NS5/8-inch thread W3/8-inch thread	—	—
Mounting on A-12 (Available screw PF1/2-inch thread U5/16-inch thread)	Yes	Yes	Yes	Yes	Yes	Yes	—	—
Mounting on A-25 (Available screw U5/16-inch thread, PF1/2-inch thread)	Yes	—	Yes	Yes	Yes	—	—	—
Mounting on A-25N (Available screw NS5/8-inch thread)	Yes	—	Yes	Yes	Yes	—	—	—
Mounting on CRS-3P	Yes	Yes	Yes	No	Yes	Yes	—	—

## Specifications

### F-Series

	F-710	F-720	F-730	F-740	F-780	F-115*2	
						(CE7)	(CE)
Capsule Type	Dynamic	Dynamic	Dynamic	Dynamic	Dynamic	Dynamic	
Frequency Response	70 to 15,000 Hz	50 to 13,000 Hz	50 to 13,000 Hz	50 to 18,000 Hz	50 to 18,000 Hz	40 to 12,000 Hz	
Directivity	UNI	UNI	UNI	UNI	UNI	OMNI	
Effective Output Level at 1 kHz, (0 dBm=1 mW/1 Pa.)	-56.0 dBm	-60.0 dBm	-59.0 dBm	-56.0 dBm	-55.0 dBm	-57.8 dBm	
Sensitivity (0 dB=1 V/1 Pa., at 1 kHz)	-54.0 dB± 3.0 dB	-57.0 dB± 3.0 dB	-56.0 dB± 3.0 dB	-54.0 dB± 2.0 dB	-53.0 dB± 2.0 dB	-54.0 dB± 2.0 dB	
Output Impedance at 1 kHz (balanced)	400 Ω ±20%	500 Ω ±20%	500 Ω ±20%	400 Ω ±20%	400 Ω ±20%	600 Ω ±20%	
Induction Noise from ext. Magnetic Field (dB SPL/1 x 10 <sup>-7</sup> T, (0 dB SPL=2 x 10 <sup>5</sup> Pa.)	≤ 5 dB SPL	≤ 10 dB SPL	≤ 10 dB SPL	≤ 5 dB SPL	≤ 5 dB SPL	≤ 5 dB SPL	
Wind Noise (0 dB SPL=2 x 10 <sup>5</sup> Pa.)	≤ 55 dB SPL	≤ 55 dB SPL	≤ 45 dB SPL	≤ 50 dB SPL	≤ 50 dB SPL	≤ 40 dB SPL	
Max. Input Sound Pressure Level (0 dB SPL=2 x 10 <sup>5</sup> Pa.)	—	—	—	—	—	—	
Microphone Connector	XLR-3-12C type	XLR-3-12C type	XLR-3-12C type	XLR-3-12C type	XLR-3-12C type	—	
Supplied Cable	—	—	—	—	—	XLR-3-12C	XLR-3-11C
Cable Length	—	—	—	—	—	6 m	
Available Receptacle	XLR-3-11C type	XLR-3-11C type	XLR-3-11C type	XLR-3-11C type	XLR-3-11C type	XLR-3-11C type	XLR-3-12C type
Supplied Mic Holder	Yes	Yes	Yes	Yes	Yes	Yes	
SAD-700 Optional Mic Holder	Yes	—	—	Yes	Yes	—	
Stand Screw/ Mic Holder Screw	PF1/2-inch thread	PF1/2-inch thread	PF1/2-inch thread	PF1/2-inch thread	PF1/2-inch thread	PF1/2-inch thread	
Supplied Stand Adaptor	NS5/8-inch thread W3/8-inch thread	NS5/8-inch thread W3/8-inch thread	NS5/8-inch thread W3/8-inch thread	NS5/8-inch thread W3/8-inch thread	NS5/8-inch thread W3/8-inch thread	NS5/8-inch thread W3/8-inch thread	W3/8-inch thread
Mounting on A-12 (Available screw PF1/2-inch thread U5/16-inch thread)	Yes	Yes	Yes	Yes	Yes	Yes	
Mounting on A-25 (Available screw U5/16-inch thread PF1/2-inch thread)	Yes	Yes	Yes	Yes	Yes	Yes	
Mounting on A-25N (Available screw NS5/8-inch thread)	Yes	Yes	Yes	Yes	Yes	Yes	
Mounting on CRS-3P	Yes	Yes	Yes	Yes	Yes	Yes	
Dimensions	mm	54 dia. x 177	37.6 dia. x 160	44.4 dia. x 166	51 dia. x 165	51 dia. x 165	Max. 30 dia. , 24.6 dia. x 173
	inch	2 dia. 1/4 x 7	1 1/2 dia. x 6 3/8	1 3/4 dia. x 6 5/8	2 1/8 dia. x 6 1/2	1 1/8 dia. x 6 1/2	3 1/32 dia. x 6 7/8
Mass*1		250 g	260 g	250 g	290 g	290 g	270 g
		8.8 oz	9.2 oz	8.8 oz	10.2 oz	10.2 oz	9.5 oz
Supplied Accessories	Microphone holder (x 1) Stand adaptor (x 2)	Microphone holder (x 1) Stand adaptor (x 2)	Microphone holder (x 1) Stand adaptor (x 2)	Microphone holder (x 1) Stand adaptor (x 2)	Microphone holder (x 1) Stand adaptor (x 2)	Microphone holder (x 1) Stand adaptor (x 2) Wind screen (x 1) Microphone case (x 1)	
Remarks	—	—	—	—	—	—	

\*1 Without the battery for condenser and electret condenser microphones.

\*2 The F-115 (CE7) is suitable for use with TC-D5 PROII. The F-115(CE) is suitable for use with TC-D5 PRO.

# SECTION 15

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## Freedom™ Series UHF Synthesized Wireless Microphone System

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### Transmitting System

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◆ Freedom™ Series UHF Synthesized Wireless Microphone System



## Transmitting System

### UHF Synthesized Wireless Microphone

## WRT-807A



- High sound quality for vocals — powerful, crisp and clean sound as well as presence in the low and mid frequency range
- Dynamic microphone capsule which is employed in the Sony F-780 professional vocal microphone
- LCD for display of channels, attenuator and accumulated operating hours
- Up to 5 hours of continuous operation with a single AA-size (LR6) battery
- 10 mW RF power output
- Battery alarm transmitted to compatible receivers
- Newly-developed lockable power switch to prevent accidental operation

### UHF Synthesized Transmitter

## WRT-808A\*



- Plug-on transmitter — converts a microphone to a wireless microphone
- Fitted with an XLR connector
- Compact and lightweight body, providing balanced handling
- Durable connecting mechanism for dependable operation
- Switchable RF power output, 50 mW for a longer working distance or 10 mW for multi-channel operation
- Variable input attenuation, 0 to 50 dB
- Battery alarm transmitted to compatible receivers
- LED for AF/Peak, battery indication
- Up to 4 hours continuous operation with two AA-sized (LR6) alkaline batteries

\*Not available in some areas.

### UHF Synthesized Wireless Microphones

## WRT-800A\*



- Uni-directional electret condenser capsule for outstanding sensitivity and response
- Remote battery alarm on tuner
- Up to 12 hours (continuous) with a single AA-sized (LR6) alkaline battery
- RF power output: 5 mW
- Ergonomic grip
- 1/4 wave length wire antenna
- Easily detachable mic holder (supplied)

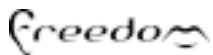
\*Not available in some areas.

### UHF Synthesized Wireless Transmitter

## WRT-805A



- Smoothly tapered body pack with compact, lightweight design
- Remote battery alarm on tuner
- LCD display of channel, attenuator and accumulated time
- Up to 6 hours (continuous) with a single AA-size (LR6) alkaline battery
- RF power output: 10 mW
- New 3.5 mm dia. (<sup>5</sup>/<sub>32</sub> inch dia.) 3-pole mini phone jack with lock mechanism
- 1/4 wave length wire antenna
- INPUT (-40/-60 dBV) level and PHASE switches for guitar and lavalier microphone options; GC-0.7 MP Guitar Cable, ECM-44BMP/77BMP/121BMP/122BMP/166BMP/310BMP Electret Condenser Microphone



### Specifications

	WRT-807A	WRT-800A	WRT-805A	WRT-808A
Operating Frequency	670 - 700 MHz	670 - 700 MHz	670 - 700 MHz	670 - 700 MHz
Channel Spacing	12.5 MHz	12.5 MHz	12.5 MHz	12.5 MHz
Number of Channels	24	24	24	24
Modulation	FM	FM	FM	FM
Power Output	500 mW	500 mW	500 mW	500 mW
Frequency Response	50 - 15,000 Hz	50 - 15,000 Hz	50 - 15,000 Hz	50 - 15,000 Hz
Dynamic Range	120 dB	120 dB	120 dB	120 dB
Distortion	< 0.1%	< 0.1%	< 0.1%	< 0.1%
Antenna	UHF	UHF	UHF	UHF
Accessories	Receiver, Transmitter, Antenna, Battery, Charger, Carrying Case	Receiver, Transmitter, Antenna, Battery, Charger, Carrying Case	Receiver, Transmitter, Antenna, Battery, Charger, Carrying Case	Receiver, Transmitter, Antenna, Battery, Charger, Carrying Case

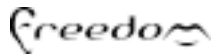
\*1 Input level switch: -60 dBV position at attenuator 0 dB

\*2 0 dB SPL = 2 x 10<sup>-5</sup> Pa.

\*3 0 dBV = 1 V<sub>r.m.s.</sub>

\*4 Attenuator level: -60 dB position

\*5 Attenuator level: -10 dB position



Lavalier Microphone

## ECM-44BMP



- Omni-directional
- Mic head 8.5 mm dia. x 14.5 mm ( $11/32$  inch dia. x  $19/32$  inch)
- Mass (microphone only, without cable): Approx. 2 g (0.07 oz)
- New 3.5 mm dia. ( $5/32$  inch dia.) 3-pole mini phone plug with lock mechanism
- Microphone cable length: 1.2 m (3.9 feet)

Lavalier Microphone

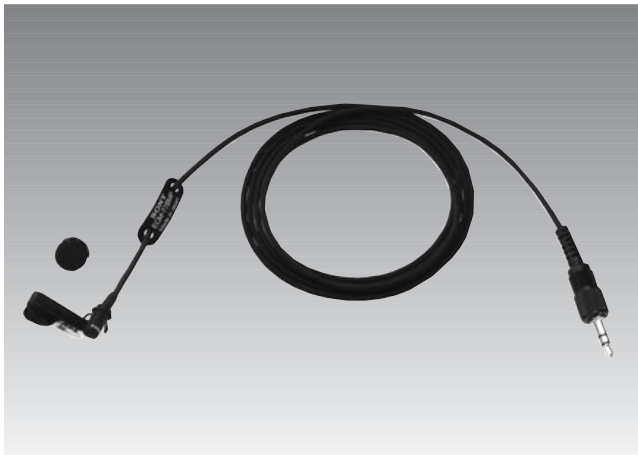
## ECM-121BMP



- Omni-directional
- Mic head 8.5 mm dia. x 17 mm ( $11/32$  inch dia. x  $11/16$  inch)
- Mass (microphone only, without cable): 3 g (0.1 oz)
- New 3.5 mm dia. ( $5/32$  inch dia.) 3-pole mini phone plug with lock mechanism
- Microphone cable length: 0.2 m ( $7\ 7/8$  inches)

Lavalier Microphone

## ECM-77BMP



Note: A clamp filter attached for (CE) and (AU) versions

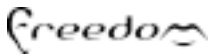
- Omni-directional
- Mic head 5.6 mm dia. x 12.5 mm
- Superior sound quality - leader in the Sony ECM lavalier microphone series
- High performance and reliability
- Suitable for a wide range of voice pick-up applications, from news reporting and announcer use in TV/radio broadcasting to institutional uses such as theater, drama, lectures and conferences
- 3-pole mini plug with a lock mechanism

Lavalier Microphone

## ECM-122BMP

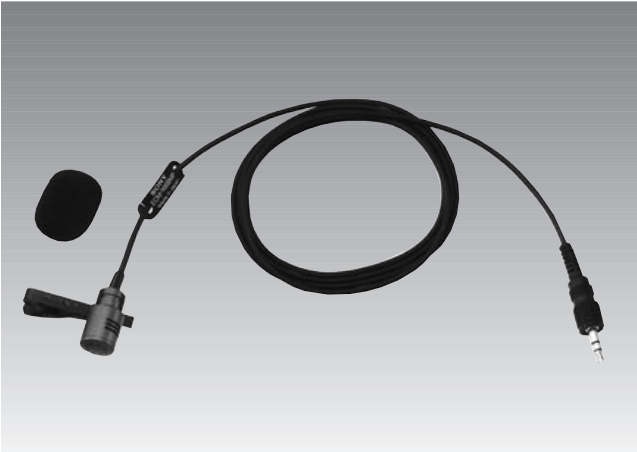


- Omni-directional
- Mic head 8.5 mm dia. x 17 mm ( $11/32$  inch dia. x  $11/16$  inch)
- Mass (microphone only, without cable): 3 g (0.1 oz)
- New 3.5 mm dia. ( $5/32$  inch dia.) 3-pole mini phone plug with lock mechanism
- Microphone cable length: 1.2 m (3.9 feet)



Lavalier Microphone

## ECM-166BMP



Note: A clamp filter attached for (CE) and (AU) versions

- Uni-directional — resistant to howling by rejecting indirect sound
- Mic head 12.5 mm dia. x 23.5 mm (1/2 inch dia. x 15/16 inch)
- Ideal for institutional uses and sound contracting applications such as speeches, lectures and conferences
- 3-pole mini plug with a lock mechanism

Headset Microphone

## ECM-310BMP



- Headset-style microphone
- Fitted with a wide-cardioid capsule for sensitivity and noise rejection
- Designed for use with WRT-805A UHF Synthesized Transmitter
- Adjustable hinge and goose-neck for perfect positioning
- Unobtrusive, anti-slide headband
- New 3.5 mm dia. (5/32 inch dia.) 3-pole mini phone plug with lock mechanism
- Microphone cable length: 1.2 m (3.9 feet)

\*Refer to page 88 for the lavalier microphones specifications.



◆ Freedom™ Series UHF Synthesized Wireless Microphone System



# Receiving System

## UHF Synthesized Diversity Tuner

### WRR-802A



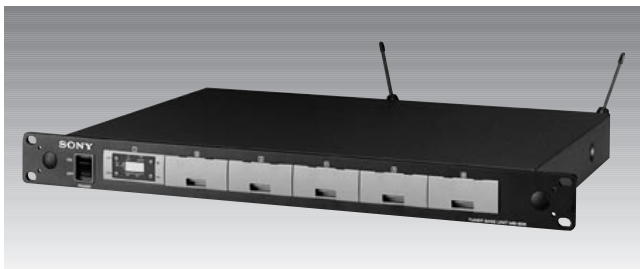
- Single-channel space diversity tuner
- Half 19-inch rack width and 1U height
- AF, RF, and battery alarm indication by both LED and LCD to double check operating condition (channel indication by LCD only)
- Output volume control
- Supplied front-mounted passive antennas
- Two types of output connectors
  - TRS Phone Balanced connector (6.3 mm dia.), -20 dBm for LINE
  - XLR connector, -58 dBm for MIC or -20 dBm for LINE



WRR-802A Rear Panel

## Tuner Base Unit

### MB-806A



\*The optional WRU-806A is installed.

- Modular design, 1U height 19-inch rack
- Accommodates up to six WRU-806A for up to six simultaneous channels of operation
- Up to 11 (CE & AU)/19 (U) simultaneous channels on a single pair of AN-820A Active Antennas with the optional WD-820A Antenna Divider
- XLR output connectors for each tuner and mix output
- Selectable output level, -58 dBm for MIC or -20 dBm for LINE
- Space diversity reception for dependable RF reception
- AF, RF, and battery alarm indication by both LED and LCD to double check operating condition (channel indication by LCD only)
- Auto channel assignment of additional receiver modules for instant programming of interference-free multichannel operation
- RF input attenuator (10 dB/0 dB) switch
- Supplied passive antennas for rear mounting (with provision for front mounting)



MB-806A Rear Panel

## UHF Synthesized Portable Tuner

### WRR-805A



- Compact, lightweight portable tuner for a wide variety of camcorders that have a stereo mini jack
- Flexible mounting position and direction for secure operation
- RF, battery alarm indication by both LED and LCD to double check operating condition (AF and channel indication by LCD only)
- LCD for display of operating channel, AF, RF, accumulated operating hours, the tuner's battery status
- LED for RF condition, the transmitter's battery alarm indication
- Convenient headphone monitoring with volume control
- 3-pole mini jack with a lock mechanism for secure camera cable clamping
- Up to 6 hours of continuous operation with two AA-size (LR6) alkaline batteries
- RF Muting function

## Required Accessory for Mounting on Camcorders

<b>No accessory</b>	DCR-VX1000/VX1000E, DCR-VX9000/VX9000E
<b>K-1334 BMP-XLR Conversion Cable for WRR-805A</b>	DSR-200A/200AP, DSR-PD100/PD100P
	DSR-1/1P, DSR-130/130P, DSR-300/300P, DSR-500WS/500WSP
	BVW-300A/300AP, BVW-400A/400AP, BVW-D600/D600P, BVW-D600/D600P, BVV-5/5P, PVV-1/1P, PVV-3/3P
	DNW-7/7P, DNW-9WS/9WSP, DNW-90/90P, DNW-90WS/90WSP, DNV-5

## UHF Synthesized Tuner Unit

### WRU-806A



- Dedicated plug-in diversity receiver module for MB-806A
- Space diversity reception for dependable RF reception



## Specifications

	WRR-802A	MB-806A	WRU-806A	WRR-805A
Oscillator	Crystal controlled PLL synthesizer	—	Crystal controlled PLL synthesizer	Crystal controlled PLL synthesizer
Type of Reception	110KF3E	—	110KF3E	110KF3E
Reference Deviation	±5 kHz	—	±5 kHz	±5 kHz
Selectivity	More than 60 dB	—	More than 60 dB	More than 60 dB
Spurious Rejection Ratio	More than 70 dB	—	More than 70 dB	More than 70 dB
Frequency Range	100 to 15,000 Hz	—	100 to 15,000 Hz	100 to 15,000 Hz
Signal-to-noise Ratio	More than 60 dB (A-weighted)	—	More than 60 dB (A-weighted)	More than 30 dB (A-weighted RF input: 10 dBμ) More than 60 dB (A-weighted RF input: 60 dBμ)
Harmonic Distortion	Less than 1.0%	—	Less than 1.0%	Less than 1.0%
RF muting Level	30 dBμ	—	30 dBμ	15 dBμ ±5 dBμ
Audio Output Level	-20 dBm/-58 dBm (±5 kHz deviation at 1 kHz modulation)	-20 dBm/-58 dBm (±5 kHz deviation at 1 kHz modulation)	—	-58 dBm (±5 kHz deviation at 1 kHz modulation)
Audio Output Connector	XLR and TRS phone, 6.3 mm (1/4 inch) dia., balanced	XLR type	—	3.5 mm (5/32 inch) dia. lock 3-pole mini phone jack with mechanism, balanced
Antenna Connector	BNC-R type	BNC-R type	—	—
headphone Output Connector	—	—	—	3.5 mm (5/32 inch) dia. 3-pole mini phone jack
Power Requirements	—	U: AC 120 V, 60 Hz CE: AC 230 V 50 Hz J: AC 100 V, 50/60 Hz	—	—
Power Consumption	—	30 W	—	—
Operating Voltage	DC 9 V	—	DC 9 V	DC 3 V, AA-size (LR6) alkaline battery (x 2)
Current Consumption	600 mA	—	225 mA	170 mA
Battery Life	—	—	—	Approx. 6 hours w/ (LR6) AA-size alkaline battery (x 2)
Dimensions (W x H x D)	218 x 44 x 210 mm (8 5/8 x 1 3/4 x 8 3/8 inches)	482 x 44 x 300 mm (19 x 1 3/4 x 11 7/8 inches)	57 x 26 x 122 mm (2 1/4 x 1 1/16 x 4 7/8 inches)	44 x 121 x 24 mm (1 3/4 x 4 7/8 x 31/32 inches)
Mass	1.6 kg (3 lb 8 oz)	3.6 kg (7 lb 15 oz)	160 g (5.7 oz)	140 g (4.9 oz) w/battery
Supplied Accessories	AC power adaptor (x 1) Antenna (x 2) Channel color seal (x 1, CE)	AC power cord (x 1) Antenna (x 2)	Channel color seal (x 1, CE)	Attachment case with a belt clip (x 1) Output cable (x 1)

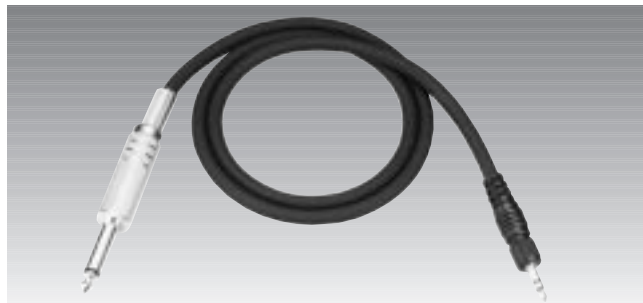
0 dBμ = 1μV; 0 dBm = 0.775 Vr.m.s. 600 Ω load; 0 dBμ = 0.775 Vr.m.s open

◆ Freedom™ Series UHF Synthesized Wireless Microphone System



Guitar Cable

## GC-0.7MP



- Designed for use with WRT-805A UHF Synthesized Transmitter
- 6.3 mm dia. (1/4 inch dia.) 2-pole phone jack to 3.5 mm dia. (5/32 inch dia.) 3-pole mini phone plug with lock mechanism
- Cable 5.5 mm dia. x 0.7 m (7/32 inch dia. x 2.3 feet)

### Specifications

Input Impedance:	More than 1 MΩ
Connectors:	3.5mm dia. (5/32 inch dia.) 3-pole mini phone plug with lock mechanism (for transmitter) 6.3mm dia. (1/4 inch dia.) phone plug (for guitar)
Cable:	0.7 m (2.3 feet)
Total mass:	70 g (2.47 oz)

Soft Case

## LCS-T805



- Designed specifically to attach a WRT-805A UHF Synthesized Body Pack Transmitter to a guitar strap
- Fixes a guitar strap with width of 15 mm (19/32 inch) to 70 mm (2 7/8 inches)  
(A convenient strap holder is included to allow attachment to a guitar strap with width less than 50 mm (2 inches))

### Specifications

Dimensions:	75 (W) x 110 (H) x 40 (D) mm (3 x 4 3/8 x 1 5/8 inches)
Mass:	50 g (1.76 oz)
Supplied Accessory:	Operating instructions (x 1)

Carrying Case

## SC-M800



- Compact and lightweight
- Portability-enables a complete Freedom Series Wireless Microphone System to be easily and safely carried around
- Capacity to hold:
  - WRT-800A UHF Synthesized Wireless Microphone (x 1)
  - WRT-805A UHF Synthesized Transmitter (x 1)
  - WRR-800A UHF Synthesized Diversity Tuner (x 1) with AC adaptor (x 1)
  - Lavalier microphones
  - GC-0.7MP Guitar Cable (x 1)
  - Microphone holder (x 1)
  - AA size batteries (max. 3)
  - Antennas (x 2) for the WRR-800A UHF Synthesized Diversity Tuner
  - Unallocated space : 95 (W) x 25 (H) x 40 (D) mm (3 3/4 x 1 x 1 5/8 inches)
  - Operating instructions (x 1) can be inserted between the inside of the case lid and the internal cushion
- Robust external polypropylene frame
- Internal urethane cushions minimize external shocks and vibration

### Specifications

Dimensions:	460 (W) x 390 (H) x 90 (H) mm (18 1/8 x 15 3/8 x 3 5/8 inches)
Mass:	1.4 kg (3 lb 1.38 oz)
Supplied Accessories:	"Freedom" logo sticker (x 1) Packaging diagram (x 1)

\*Freedom is a trademark of Sony Corporation.

# SECTION 16

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## UHF Synthesized Wireless Microphone System

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### Transmitting System

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## Transmitting System

UHF Synthesized Wireless Microphone

### WRT-867A



- For critical vocal recording
- PLL synthesized control transmission
- In a resilient body structure, a uni-directional dynamic microphone capsule incorporates a high quality edgewise-winding voice coil with lightweight CCAW (Copper Clad Aluminium Wire) and AlNiCo magnet
- Approx. 4 hours of continuous operation at 10 mW RF output level is provided by an AA-size (LR6) alkaline battery
- LED power indicator
- Wireless channel buttons built in the body to prevent misoperation

UHF Synthesized Wireless Microphone

### WRT-830A



- High quality sound for vocals
- PLL synthesized control transmission
- Approx. 8 hours of continuous operation is provided by 2 AA-size (LR6) alkaline batteries. The battery status can be shown on the built-in LCD
- An ON/OFF power switch inside the body for free from misoperation, preventing a user from accidentally turning-off the switch during operation
- Low handling noise due to the electret capsule
- Selectable RF Output 10 mW or 2.5 mW
- Easy-to-read LCD indication

UHF Synthesized Wireless Transmitter

### WRT-860A



- PLL synthesized control transmission
- Ultra-compact and lightweight design, measuring only 63 (W) x 88 (H) x 17 (D) mm (2 1/2 x 3 1/2 x 11/18 inches)
- A 20 mW RF output
- Detachable antenna
- Approx. 6 hours of continuous operation is provided from 2 AA-size (LR6) alkaline batteries
- An LCD indicates extensive information on operating conditions such as accumulated working time, wireless channel frequency in MHz and battery status
- Highly durable
- Lavalier Microphones Capability

UHF Synthesized Wireless Transmitter

### WRT-822A



- PLL synthesized control transmission
- Approx. 8 hours continuous operation with 2 AA-size (LR6) alkaline batteries
- Compact and lightweight design, measuring 63 (W) x 103 (H) x 17 (D) mm (2 1/2 x 4 1/8 x 11/18 inches)
- Easy-to-read LCD for comprehensive system information such as battery status, accumulated working time, frequency level.
- Lavalier microphones capability

*UHF Synthesized Wireless Microphone*

## **WRT-810A**



- PLL synthesized control transmission
- Approx. 8 hours of continuous operation is provided by 2 AA-size (LR6) alkaline batteries. The battery status can be shown on the built-in LCD.
- Uni-directional dynamic capsule
- Easy-to-read LCD display
- Built-in talk switch
- Selectable RF output 10 mW or 2.5 mW

*Headset Microphone*

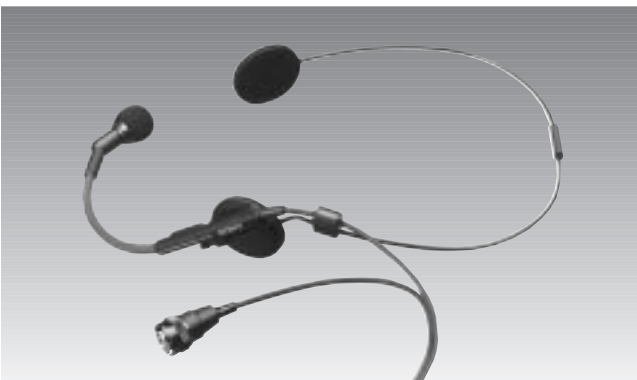
## **ECM-310BC**



- Headset-style microphone for sound reinforcement applications
- Fitted with a wide-cardioid microphone, which provides crisp and clear sound while isolating desired sound from surrounding ambience
- Designed for use with the WRT-822A UHF Synthesized Transmitter (also suitable for use with the WRT-860A model)
- Adjustable hinge and goose-neck for a wide range of adjustment
- Unobtrusive, anti-slide headband
- SMC9-4P connector to interface with Sony wireless transmitters

*Headset Microphone*

## **ECM-350BC**



- Headset-style microphone for TV/sound reinforcement applications
- Fitted with an omni-directional microphone, which reduces pop-noises and allows optimum sound pick-up and enhanced intelligibility under almost any situation
- Designed for use with the WRT-860A UHF Synthesized Transmitter (also suitable for use with the WRT-822A model)
- Lightweight and with flexible microphone positioning for optimum vocal pick-up
- Unobtrusive, anti-slide headband
- SMC9-4P connector to interface with Sony wireless transmitters

*Lavalier Microphone*

## **ECM-77BC**



- 5.6 mm dia. x 12.5 mm (1/4 inch dia. x 1/2 inch), 1.5 g (0.04 oz) microphone head
- High performance, 40 to 20,000 Hz frequency response
- Fitted with a 1.2 m (3.9 feet) cable terminating in a SMC9-4P connector for use with the Sony wireless microphone system

## Specifications

		WRT-867A	WRT-830A	WRT-810A	WRT-860A	WRT-822A	
Oscillator		Crystal-controlled PLL synthesizer					
Type of Emission		110KF3E					
RF Power Output		10 mW	10 mW or 2.5 mW, selectable		20 mW	10 mW	
Antenna		Helical	$\frac{1}{4}$ wave length whip antenna		$\frac{1}{4}$ wave length whip antenna, SMA-J type connector	$\frac{1}{4}$ wave length whip antenna	
Reference Deviation		$\pm 5$ kHz					
Frequency Response		50 to 15000 Hz	70 to 15000 Hz	100 to 13000 Hz	70 to 15,000 Hz	70 to 15000 Hz	
Signal-to-noise Ratio		60 dB (A-weighted)					
Modulation Distortion		1.0%	1.5%		1.0%		
Attenuator Adjustment Range or Pad		0, 6 dB or 12 dB	0 to 12dB, variable in 3 dB steps	0 to 21 dB, variable in 3 dB steps	0 to 30 dB, variable in 3 dB steps	0 to 21 dB, variable in 3 dB steps	
Reference Input Level		—		-60 dBV			
Max. Input Sound Pressure Level (0 dB SPL = $2 \times 10^{-5}$ Pa.)		142 dB SPL (w/12 dB attenuator)		151 dB SPL (w/21 dB attenuator)	—		
Microphone Capsule		Dynamic	Electret condenser	Dynamic	—		
Directivity		Uni-directional				—	
Operating Voltage		1.5 V, LR6 AA-size alkaline battery (x 1)	3 V, LR6 AA-size alkaline battery (x 2)		3 V, LR6 AA-size alkaline battery (x 2)		
Power Consumption		Less than 240 mA (at 1.5 V)	170 mA		185 mA	170 mA	
Battery Life		Approx. 4 hours w/LR6 alkaline battery (x 1)	Approx. 8 hours w/LR6 AA-size alkaline batteries (x 2)		Approx. 6 hours w/two LR6 alkaline batteries (x 2)	Approx. 8 hours w/LR6 AA-size alkaline batteries (x 2)	
Dimensions		51 mm dia. x 195 mm (2 $\frac{1}{8}$ inches dia. x 7 $\frac{3}{4}$ inches)	48 mm dia. x 238 mm (1 $\frac{15}{16}$ inches dia. x 9 $\frac{3}{8}$ inches)	48 mm dia. x 238 mm (1 $\frac{15}{16}$ inches dia. x 9 $\frac{3}{8}$ inches)	63 (W) x 78 (H) x 17 (D) mm (2 $\frac{1}{2}$ x 3 $\frac{1}{8}$ x $\frac{11}{16}$ inches)	63 (W) x 103 (H) x 17 (D) mm (2 $\frac{1}{2}$ x 4 $\frac{1}{8}$ x $\frac{11}{16}$ inches)	
Mass		320 g (11.2 oz) w/battery	300 g (10.5 oz) w/batteries		160 g (5.6 oz) w/batteries	145 g (5.1 oz) w/batteries	
Supplied Accessories	Microphone Holder	PF $\frac{1}{2}$ -inch thread				Soft case (x 1)	Soft case (x 1)
	Stand Screw Adaptor	U: PF $\frac{1}{2}$ -inch thread to NS $\frac{5}{8}$ -inch thread (x 1) AU: PF $\frac{1}{2}$ -inch thread to NS $\frac{5}{8}$ -inch thread (x 1), PF $\frac{1}{2}$ -inch thread to W $\frac{3}{8}$ -inch thread (x 1)				Spare battery case (x 1) Microphone cable (x 1) (EC-1.5CF)	

\*Refer to page 88 for the ECM-350BC/310BC/77BC specifications.

## Receiving System

### *UHF Synthesized Diversity Tuner*

## **WRR-850A\***



- Headphone monitoring output
- Outstanding sound quality
- Twin turners
- Versatile display
- Space diversity reception system
- Convenient pre-programmed channel plans
- Muting function
- Comprehensive system information
- 1U high and 19-inch rack mountable
- Compressor system for wide dynamic range and low noise
- Squelch circuitry operated by ultrasonic tone for positive transmitter reception
- DC 9 V power supply for two UHF AN-820A antenna

\*Not available in some areas.

### *UHF Synthesized Tuner*

## **WRR-810A**



- Compact, lightweight and easy to mount on Betacam SP camcorders
- Approx. 6 hours of continuous operation by 2 AA-size (LR6) alkaline batteries. The battery status can be shown on the built-in LCD.
- AF monitoring function
- Switchable muting RF level 15 dB $\mu$

### *UHF Synthesized Diversity Tuner with Dual Reception System*

## **WRR-840A**



### *UHF Synthesized Diversity Tuner with Single Reception System*

## **WRR-820A**



- PLL Synthesized Tuning
- Diversity Reception
- Intermodulation-free pre-programmed channel plan
- Three selectable output levels -60 dB, -40 dB or -20 dB
- Provides DC 9 V power supply for the UHF AN-820A Antenna
- 1U High and 19-inch Rack Mountable

### *UHF Synthesized Diversity Tuner*

## **WRR-860A**



- Portable space diversity reception
- Intermodulation-free factory-stored pre-programmed channel plan
- LCD operating status display such as accumulative working time and a battery status
- Approx. 6 hours of continuous operation by 4 AA-size (LR6) alkaline batteries
- Supplied attachment, holder kit and DC cable for Sony Betacam camcorder
- Monitoring function
- Switchable muting RF level 5 dB $\mu$ , 15 dB $\mu$  or 25 dB $\mu$
- Interface multi-connector for communications with K-1234 portable base unit



UHF Synthesized Diversity Tuner

## WRR-855A



- Slot-in type portable tuner designed for use with Sony Betacam SX camcorders
- Water proof structure
- Compact design and lightweight only 280 g (11 oz)
- Space diversity system for highly stable signal reception
- Pre-programmed, intermodulation-free, groups of frequencies stored in CPU for simultaneous multi-channel operation
- Tone-squelch circuit for noise elimination
- LED indications of received RF signal level and audio output
- LCD shows
  - wireless microphone operating channel and group
  - error messages
- Powered from camcorder
  - direct interfacing with Sony Betacam SX camcorders
  - via optional mounting adaptor (BTA-801) with other Sony camcorders
- Muting RF level 10 dB $\mu$  or OFF switchable

Camera Adaptor

## CA-WR855



- Mounting adaptor that enables a WRR-855A to be mounted on Sony DSR-300/500WS DVCAM™ camcorders
- Direct audio/power connection interfaces

Portable Tuner Mount Adaptor

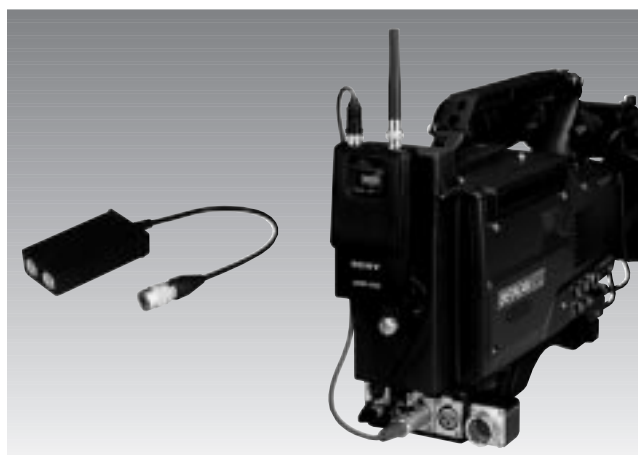
## BTA-801



- Mounting adaptor for a WRR-855A to fit on a Sony camcorder
- Provides DC power supply from a camcorder to the WRR-855A by incorporating a DC-DC converter

DC Pack Unit

## DC-WL800



- The DC-WL800 can be used to power a WRR-810A Portable Receiver, the attached power cable of this DC pack making it very convenient to mount the receiver onto any Betacam camcorder
- As an alternative to operating a WRT-860A, or WRT-822A, on batteries, the battery case can be removed and replaced by a DC-WL800 DC Pack which then allows operation from an external DC 12 V source

## Required accessory for mounting on camcorders

	DC output	Mic input (rear)	Mic Input (front)	WRR-810A	WRR-855A	WRR-860A
<b>HD Camcorder</b>						
HDW-700/A	Yes	XLR x2	XLR x1	Attachment bracket*	BTA-801 & Attachment bracket*	Attachment bracket*
<b>Digital Betacam Camcorder</b>						
DVW-707/P DVW-709WS/P DVW-790WS/P	Yes	XLR x2	XLR x1	Attachment bracket*	BTA-801 & Attachment bracket*	Attachment bracket*
DVW-700WS/P DVW-700/P	Yes	XLR x2	mini XLR x1	No accessory for mounting	BTA-801	No accessory for mounting
<b>Betacam SX Camcorder</b>						
DNW-7/P DNW-9WS/P DNW-90/P DNW-90WS/P	Yes	XLR x2	XLR x1	Attachment bracket*	No accessory for mounting	Attachment bracket*
DNV-5	Yes	XLR x2	No	Attachment bracket*	No accessory for mounting	Attachment bracket*
<b>Betacam SP Camcorder</b>						
BVW-300A/P BVW-400A/P BVW-D600/P	Yes	XLR x2	XLR x1	No accessory for mounting	BTA-801	No accessory for mounting
BVV-5/P PVV-1/P PVV-3/P	No	XLR x4 XLR x2	No No	No accessory for mounting	/	No accessory for mounting
<b>DVCAM Camcorder</b>						
DSR-130/P	Yes	XLR x2	XLR x1	No accessory for mounting	BTA-801	No accessory for mounting
DSR-200A/P	No	XLR x2	Stereo mini x1	DSBK-201	/	/
DSR-300/P DSR-500WS/P	Yes	XLR x2	XLR x1 XLR x1	Attachment bracket*	CA-WRR855	Attachment bracket*
DSR-1/P	Yes	XLR x2	No	No accessory for mounting	BTA-801	No accessory for mounting
<b>DV Camcorder</b>						
DCR-VX1000/E DCR-VX9000/E	No	No	Stereo mini x1 Stereo mini x1	/	K-1303	/

\*Attachment bracket: Supplied with BKW-L601 (A-8278-057-A)

## Specifications

	WRR-850A	WRR-840A	WRR-820A
Oscillator	Crystal-controlled PLL synthesizer	Crystal-controlled PLL synthesizer	Crystal-controlled PLL synthesizer
Type of Reception	110KF3E	110KF3E	110KF3E
Reference Deviation	± 5 kHz	± 5 kHz	± 5 kHz
Selectivity	More than 60 dB	More than 50 dB	More than 50 dB
Spurious Rejection	More than 80 dB	More than 60 dB	More than 60 dB
Frequency Range	50 to 15,000 Hz ± 3 dB	100 to 15,000 Hz	100 to 15,000 Hz
Signal-to-noise Ratio	More than 60 dB (A-weighted)	More than 60 dB (A-weighted)	More than 60 dB (A-weighted)
Harmonic Distortion	Less than 1.0% at 1 kHz	Less than 1.0% at 1 kHz	Less than 1.0% at 1 kHz
RF Muting Level	15 dBμ, 25 dBμ or 35 dBμ	-	-
Audio Output Level	-20 dBm or -58 dBm	-20 dBu (-26 dBm), -40 dBu (-46 dBm) or -60 dBu (-66 dBm), XLR-3-32 type -20dBu (-26 dBm) or -41dBu (-47 dBm), Phono type	-20 dBu (-26 dBm), -40 dBu (-46 dBm) or -60 dBu (-66 dBm), XLR-3-32 type -20 dBu (-26 dBm) or -41 dBu (-47 dBm), Phono type
Audio Output Connector	XLR-3-32 type	XLR-3-32 type Phono type	XLR-3-32 type Phono type
Antenna Connector	BNC type	BNC type	BNC type
Monitor Connector	1/4-inch stereo phone type	1/4-inch stereo phone type	1/4-inch stereo phone type
Power Requirements	AC 120 V, 60 Hz	AC 120 V, 60 Hz	AC 120 V, 60 Hz
Power Consumption	30 W	20 W	12 W
Operating Voltage	-	-	-
Current Consumption	-	-	-
Dimensions (W x H x D)	482 x 44 x 300 mm (19 x 1 3/4 x 11 7/8 inches)	482 x 44 x 300 mm (19 x 1 3/4 x 11 7/8 inches)	482 x 44 x 300 mm (19 x 1 3/4 x 11 7/8 inches)
Mass	5.4 kg (11 lb 15 oz)	5.4 kg (11 lb 15 oz)	4.9 kg (10 lb 13 oz)
Supplied Accessory	AC power cord	-	-

\*0 dBμ=0.775 Vms

	WRR-860A	WRR-855A	WRR-810A
Oscillator	Crystal-controlled PLL synthesizer	Crystal-controlled PLL synthesizer	Crystal-controlled PLL synthesizer
Type of Reception	110KF3E	110KF3E	110KF3E
Reference Deviation	± 5 kHz	± 5 kHz	± 5 kHz
Selectivity	More than 60 dB	More than 60 dB	More than 60 dB
Spurious Rejection	More than 80 dB	More than 80 dB	More than 50 dB
Frequency Range	100 to 15,000 Hz	100 to 15,000 Hz	100 to 15,000 Hz
Signal-to-noise Ratio	More than 60 dB (A-weighted)	More than 60 dB (A-weighted)	More than 60 dB (A-weighted)
Harmonic Distortion	Less than 1.0% at 1 kHz	Less than 1.0% at 1 kHz	Less than 1.0% at 1 kHz
RF muting Level	5 dBμ, 15 dBμ, 25 dBμ or OFF selectable	10 dBμ or OFF selectable	15 dBμ
Audio Output Level	-58 dBm	-40 dBm	-58 dBm
Audio Output Connector	XLR-3-12C type	D-sub 15-pin	SMC9-4S
Antenna Connector	BNC-R type	BNC-R type	BNC-R type
Monitor Connector	3.5 mm dia. stereo mini jack	-	-
Power Requirement	-	-	-
Power Consumption	-	-	-
Operating Voltage	6 V, AA-size (LR6) alkaline batteries (x 4) or 12 V, external DC	DC 7 V	3.0 V, AA-size (LR6) alkaline batteries (x 2)
Current Consumption	Less than 190 mA at DC 6 V (w/batteries) or 100 mA at external DC 12 V	Less than 200 mA at external DC 7 V	Less than 180 mA at 3.0 V
Dimensions (W x H x D)	97 x 131 x 33 mm (3 7/8 x 5 1/4 x 1 5/16 inches)	88 x 118.8 x 31.3 mm (3 1/2 x 4 3/4 x 1/4 inches)	63 x 120 x 17 mm (2 1/2 x 4 3/4 x 11/16 inches)
Mass	500 g (1 lb 2 oz) w/batteries	280 g (9.9 oz)	220 g (7 oz) w/batteries
Supplied Accessories	1/4 wave length antenna (x 2) Output cable (x 1) DC cable (x 1) Holder kit for Betacam Camcorder (x 1) Attachment case (x 1) Battery case (spare) (x 1) Shoulder strap (x 1)	1/4 wave length antenna (x 2)	1/4 wave length antenna (x 1) Output cable (x 2) Holder kit for Betacam Camcorder (x 1)

\*0 dBμ=0.775 Vms.

	DC-WL800
Input DC Power	10 to 17 V
Output DC Power	3 V
Load Current	250 mA
Mass	50 g (1.8 oz)

## Peripherals

### UHF Antenna

## AN-820A



- Built-in RF amplifier
- Easy installation on a wall or in a microphone stand with the supplied stand adaptor
- LED indication for installation check
- External power supply provided from the MB-806A, WRR-820A/840A/850A or the WD-820A via coaxial cable

### UHF Antenna Divider

## WD-880A



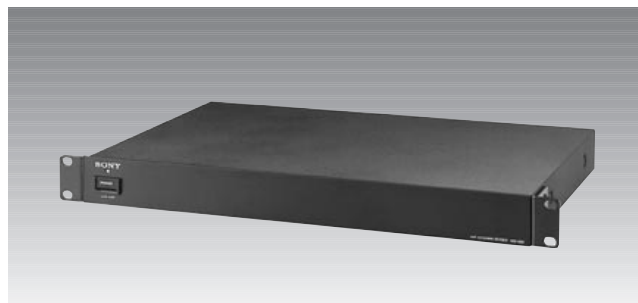
- Outstanding multi-channel simultaneous operation

Area	No. of channels	Frequencies band
Pan American	42	770 to 806 MHz (TV64 to TV69)
UK (BC use)	24	774 to 798 MHz (TV59 to TV61)
Norway (Non BC)	24	800 to 820 MHz (TV62 to TV64)
Australia	20	792 to 806 MHz (TV66 to TV67)
Japan	34	779 to 788 MHz (A2) 797 to 810 MHz (A/B)

- Ideal for complex, multi-channel applications from large scale live music events to TV OBs and large theater productions
- Stable reception minimizing interference and distortion
- Bandpass filters divide the spectrum of TV channels into multiple frequency bands which are output from the WD-880A
- Dual inputs and outputs for diversity operation
- DC 9 or 12 V power supply to operate AN-820A antennas or K-1237 antenna boosters
- LED indications to show the output connection status
- 1U size rack mountable

### UHF Antenna Divider

## WD-820A



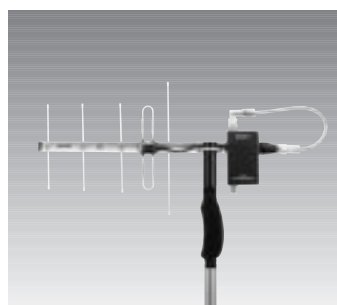
- Connection of up to 4 diversity distribution outputs
- Cascade connections
- Connection of up to 2 pair antennas
- DC 9 V power supply for the AN-820A UHF antenna

### UHF Antenna

## K-1236

### UHF Antenna Booster Unit

## K-1237



- Two way powering of 2 AA-size (LR-6) alkaline batteries which provide Approx. 6 hours of continuous operation or external DC 10 to 17 V

Tuner Base Unit

# K-1234



- Up to 6 units of the WRR-860A can easily plug into the K-1234
- An LCD display and the channel switches provide the same operation information as the WRR-860A
- Suitable for outside shooting
- Switchable output level LINE(-20 dBm) or MIC(-58 dBm)
- Built-in antenna divider
- Equipped with cascade output connectors
- AC 100 to 120 V and 200 to 240 V / DC 12 V two way power requirement system
- Power supply for the K-1237 booster

## Optional Accessories

### EC-1.5CF

Microphone cable for WRT-822A/860A  
 • Connectors: SMC9-4P, XLR-3-11C type  
 • Length: 1.5 m

### K-1161

Microphone cables for connection between AN-820A, WRR-820A/840A and WD-820A  
 • Connectors: SMC9-4P, Phone  
 • Length: 0.7 m

### WBC Coaxial Cables

50 Ω coaxial cables with BNC connectors

Model	Length (m)	Connector (x 2)	Cable (50 Ω)	Loss (dB)		Mass (g)
				500 MHz	1000 MHz	
WBC-0.6B-P	0.6	BNC-P (UG-88/U)	RG-58 A/U	—	—	70
WBC-10B-5P	10	BNC-P-5	5D-2 V	2.2	3.5	800
WBC-20B-5P	20	BNC-P-5	5D-2 V	4.4	7.0	1600
WBC-30B-5P	30	BNC-P-5	5D-2 V	6.6	10.5	2400
WBC-50B-5P	50	BNC-P-5	5D-2 V	11.0	17.5	4000

## Specifications

	WD-820A	WD-880A
Channel Distribution	2 inputs/4 outputs (x 2)	2 input/5 TV-CH outputs (x 2) for J 1 input/6 TV-CH outputs (x 2) for U 1 input/3 TV-CH outputs (x 2) for CE 2 input/3 TV-CH outputs (x 2) for AU
Input/Output VSWR	Less than 3.0	—
Input/Output Impedance	50 Ω	50 Ω
Cascade Output	1 output (x 2)	—
Power Supply for Antenna Booster (supplied from antenna input connectors)	DC 9 V	DC 12 V/9 V/OFF switchable
Power Consumption	6 W +outlet 300 W max.	16 W
Dimensions (W x H x D)	482 x 44 x 300 mm (19 x 1 3/4 x 11 7/8 inches)	482 x 44 x 300 mm (19 x 1 3/4 x 11 7/8 inches)
Mass	4.2 kg (9 lb 4 oz)	4.5 kg (9 lb 15 oz)
Supplied Accessories	AC power cord (x 1) 50 Ω BNC terminators (x 6)	AC power cord (x 1)

# SECTION 17

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	<b>Monitor Equipment</b>
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Powered Monitor Speaker System

# SMS-1P



SMS-1P Rear Panel

- 2 types of inputs for enhanced Mixing capabilities
  - Input 1: RCA Phono jack, RCA Phone jack
  - Input 2: XLR-3-31 connector (balanced input), RCA Phone jacks
- Anti-Magnetic Speaker Unit including a 10 cm full-range speaker unit with a canceling magnet and a large shield
- Large heat sink and durable built-in power amp with 15 W power output for long hours of use
- Independent buffer amp for each input for superior sound quality
- Dedicated power supplies for both buffer amp and power amp for preventing mutual interference
- Bass/Treble control for sound that matches listening environment
- Mounting capabilities - two 5 mm nut holds (60 mm pitch) at the bottom of the main body for mounting to a monitor
- Cabinet composed of simulated marble and high-density particle board

**Supplied Accessories**

- Power cable (x 1)
- Protector (x 1)

## Specifications

**Speaker**

Speaker System:	Full range bassreflex
Speaker Unit:	10 cm dia. cone type
Nominal Impedance:	4 Ω
Power Handling Capacity:	Nominal 25 W Max. 50 W
Sensitivity:	88 dB/W/m
Frequency Range:	80 Hz to 16 kHz (-10 dB)
Enclosure Volume:	Approx. 3.2 liters

**Amplifier**

Output:	15 W
Inputs	
Channel 1:	RCA Phono jack (x 1) RCA Phone jack (x 1)
Channel 2:	RCA Phone jack (x 1) Balanced XLR terminal (x 1)
Input Level:	Balanced terminal: +4 dB RCA Phone jack: -10 dB RCA Phono jack: -10 dB
Input Impedance:	Balanced terminal: 600 Ω RCA Phone jack: 10 kΩ RCA Phono jack: 10 kΩ
Tone Controls:	BASS 100 Hz: ±6 dB TREBLE 10 kHz: ±6 dB

**General**

Dimensions:	132 (W) x 210 (H) x 230 (D) mm (5 1/4 x 8 3/8 x 9 1/8 inches)
Mass:	3.3 kg (7 lb 4 oz)

Powered Monitor Speaker System

# SMS-2P



SMS-2P Rear Panel

- 2-channel mixing by a volume control for each channel for mixing two different input sources
- Anti-Magnetic Speaker Unit including both tweeter and woofer speaker units, each with a canceling magnet and a large shield
- Cascade connection of up to 20 speakers
- High-efficiency durable power amplifier having bi-amplifier construction (50 W/Woofers, 40 W/Tweeter) and capable of long hours of use
- Tweeter level control and Bass/Treble control for sound that matches listening environment
- Direct Switch in Ch 2 to bypass tone controls and channel volume, and send a signal directly to the power amplifier
- Cabinet composed of high-density particle board  
A vibration-control material laminated in the baffle for ideal sound separation

### Supplied Accessories

- Power cable (x 1)
- Protector (x 1)
- Instruction manual (x 2)
- Slip stoppers (x 1)

## Specifications

### Speaker

Speaker System:	2 way bassreflex
Speaker Unit:	Woofer: 16 cm dia. cone type Tweeter: 2.5 cm dia. dome type
Nominal Impedance:	6 Ω (W/T)
Power Handling Capacity:	Woofer: 50 W Tweeter: 40 W
Sensitivity:	107 dB/m (1 piece)
Frequency Range:	48 Hz to 20 kHz (±3 dB)
Enclosure Volume:	Approx. 14 liters
Inputs	
Channel1/2:	RCA Phono jack (x 1) RCA Phone jack (x 1) Balanced XLR terminal (x 1) RCA Phone jack (x 1)
Return:	
Input Level:	Balanced terminal: +4 dBm RCA Phone jack: -10 dBm RCA Phono jack: -10 dBm Return: 0 dBm
Input Impedance:	Balanced terminal: 600 Ω RCA Phone jack: 10 kΩ RCA Phono jack: 10 kΩ
Output Level:	SEND: 0 dBm CASCADE: Same as RETURN level
Tone Controls:	BASS 100 Hz: ±6 dB TREBLE 10 kHz: ±6 dB
Tweeter Level Control:	+2.5 dB/-3.5 dB

### General

Dimensions:	239 (W) x 410 (H) x 331 (D) mm (9 1/2 x 16 1/4 x 13 1/8 inches)
Mass:	13 kg (28 lb 11 oz)



Studio Monitor Speaker System

# SMS-3



- 2-way speaker system with a 20 cm woofer and a 3 cm dome tweeter
- Provides a maximum power-handling capacity of 300 W and a nominal power-handling capacity of 100 W
- Diecast aluminum frame ensures superb sound quality
- Magnetic shielding avoids interference when in close proximity to audio-video system equipment
- Suitable for horizontal or vertical mounting
- Large speaker terminals built-in to accommodate extremely large diameter cable connections, avoiding signal deterioration
- Dense timber enclosure with wood veneer finish
- Outstanding transient response for superb sound reproduction

**Supplied Accessories**

- Grill net (x 2)
- Instruction manual (x 1)

## Optional Accessories

**SMS-3WU**

Woofer unit

**SMS-3TU**

Tweeter unit

## Specifications

**Speaker**

Speaker System:	2-way speaker system
Speaker Unit:	Woofer: 20 cm dia. cone type Tweeter: 3 cm dome type
Nominal Impedance:	6 Ω
Power Handling Capacity:	Nominal 100 W (300 W/peak) Max. 50 W
Sensitivity:	90 dB/W/m
Frequency Range:	50 Hz to 38 kHz (-10 dB)
Enclosure Volume:	Approx. 12.5 liters

**General**

Dimensions:	238 (W) x 382 (H) x 221 (D) mm (9 3/8 x 15 1/8 x 8 3/4 inches)
Mass:	10 kg (22 lb 1 oz)

## Stereo Headphones

**MDR-7509**

- Professional monitoring headphones
- Resists high power input up to 3000 mW
- Comfortable, auranomic design (circum aural headphones, earcup covering the entire ear)
- 50 mm driver unit for high quality sound
- Neodymium magnet for powerful bass and clear treble sound
- Amorphous diamond evaporated diaphragm for natural sound reproduction
- Reversible earcup design for easy single sided monitoring
- Coiled, LC-OFC class 1 litz cord for minimum signal transmission loss
- Screw type gold plated stereo unimatch plug for secure connection
- Convenient folding design
- Self closing mechanism prevents sound leakage when headphones are taken off

**Specifications**

Type:	Circum-aural, closed
Driver unit:	50 mm dia., dynamic type
Diaphragm:	Amorphous diamond evaporated
Magnet:	Neodymium
Impedance:	24 $\Omega$
Sensitivity:	107 dB
Power Handling Capacity:	3,000 mW
Frequency Response:	5 to 30,000 Hz
Cord:	Coiled, single sided, 1 to 3 m LC-OFC class 1 litz cord with a gold-plated stereo mini plug
Headband:	Wide single headband (folding mechanism)
Mass (without cord):	300 g (10.5 oz)
Supplied accessories:	Soft case, gold-plated unimatch plug adaptor

## Stereo Headphones

**MDR-7506**

- Professional monitoring headphones
- Comfortable, auranomic design (circum aural headphones, earcup covering the entire ear)
- 40 mm driver unit for high quality sound
- Neodymium magnet is used to deliver deep bass and clear treble sound
- Utilizing diaphragms constructed of 16 $\mu$ m high-molecule film and copper-clad aluminum voice coil, these headphones deliver high quality sound along a wide frequency range
- The headphone cord is an oxygen-free copper litz wire which provides maximum conductivity
- The coiled headphone cord extends your action radius to 3 meters
- Useful clicking scales on the slide bar
- Convenient folding design
- Self closing mechanism prevents sound leakage when headphones are taken off

**Specifications**

Type:	Circum-aural, closed
Driver Units:	40 mm dia., dynamic type
Impedance:	63 $\Omega$ at 1 kHz
Sensitivity:	106 dB/mW
Power Handling Capacity:	1000 mW
Frequency Response:	10 to 20,000 Hz
Cord:	Coiled, single sided, 1 to 3 m OFC litz cord with a gold-plated stereo mini plug
Mass (without cord):	230 g (8.1 oz)
Supplied Accessories:	Soft case, gold-plated unimatch plug adaptor

Stereo Headphones

# MDR-7505



- Professional monitoring headphones for DJ, remix, and studio
- Swivel mechanism allows easy single sided monitoring in various wearing positions
- Round design of ear pads allows the DJs to listen in various positions, with consistent audio quality
- Acoustical characteristics is designed to position sound image very close to the ears, thus, enabling easy sound monitoring in noisy environment
- 40 mm driver unit for high quality sound
- Neodymium magnet for powerful bass and clear treble sound
- Reversible earcup design for easy single sided monitoring
- Coiled, LC-OFC cord for high quality transmission
- Screw type gold plated stereo unimatch plug for secure connection
- Convenient folding design

## Specifications

Type:	Supra-anral, closed
Driver unit:	40 mm dia., dynamic type
Diaphragm:	PET
Magnet:	Neodymium
Impedance:	40 Ω
Sensitivity:	106 dB/mW
Power Handling Capacity:	1,000 mW
Frequency Response:	10 to 25,000 Hz
Cord:	Coiled, single sided, 1 to 3 m LC-OFC litz cord with a gold plated stereo mini plug
Headband:	Wide single headband (folding mechanism)
Mass (without cord):	220 g (7.7 oz)
Supplied Accessories:	Soft case, gold-plated unimatch plug adaptor

Stereo Headphones

# MDR-7502



- Designed to fit securely over the ear, these headphones ensure a high-degree of air-tightness and soundproofing
- The diaphragm, which is made of a high-molecule film, and the copper-clad aluminum voice coil reproduce high quality extended frequency sound
- Neodymium magnet is used to deliver deep bass and clear treble sound
- These headphones are equipped with a stereo unimatch plug which can be connected to a jack of either the mini or the phone type
- The headphone cord is a litz wire which reduces conductive loss at high frequencies

## Specifications

Type:	Supra-aural, closed
Driver units:	30 mm dia., dynamic type
Diagram:	PET
Magnet:	Neodymium
Impedance:	24 Ω at 1 kHz
Sensitivity:	100 dB/mW
Power Handling Capacity:	500 mW
Frequency Response:	60 to 18,000 Hz
Cord:	2 m cord with a gold-plated stereo mini plug cord
Mass (without cord):	150 g (5.2 oz)
Supplied Accessories:	Soft case, gold-plated unimatch plug adaptor

# SECTION 18

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◆ Power Amplifier

Power Amplifier

# SRP-P15\*



- 250 W + 250 W (4 Ω), 150 W + 150 W (8 Ω) or 500 W monaural (8 Ω, BTL connection)
- Low distortion and high S/N ratio
- SIGNAL, CLIP, OVER HEAT, PROTECTION and MONO indicators
- Three NEUTRIK NL4MP loudspeaker connectors for Left, Right and Mono
- Screw type for output and XLR-type connector, phone and 3P barrier strip terminals for input
- LED signal monitoring
- Built in protection circuit
- 3U high and mountable in a 19-inch rack



SRP-P15 Rear Panel

Power Amplifier

# SRP-P26\*



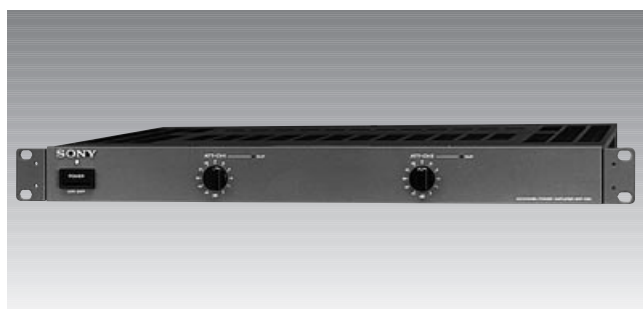
- 400 W + 400 W (4 Ω), 250 W + 250 W (8 Ω) or 800 W monaural (8 Ω, BTL connection)
- Low distortion and high S/N ratio
- SIGNAL, CLIP, OVER HEAT, PROTECTION and MONO indicators
- Three NEUTRIK NL4MP loudspeaker connectors for Left, Right and Mono
- Screw type for output and XLR-type connector, phone and 3P barrier strip terminals for input
- LED signal monitoring
- Built in protection circuit
- 3U high and mountable in a 19-inch rack



SRP-P26 Rear Panel

Power Amplifier

# SRP-P50



- 75 W + 75 W (4 Ω), 55 W + 55 W (8 Ω) or 150 W monaural (8 Ω, BTL connection)
- Suitable for low power PA applications and for monitoring
- Anti-vibration and anti-flux chassis design
- Input level switchable between 0 dBu and -10 dBu
- XLR-type and phono jack type connector for input
- Compact 1U high and mountable in a 19-inch rack
- Optional front guard panel MU-11G



SRP-P50 Rear Panel

Power Amplifier

# SRP-P150\*



- 220 W + 220 W (4 Ω), 150 W + 150 W (8 Ω) or 440 W monaural (8 Ω, BTL connection)
- SIGNAL, CLIP, OVERHEAT, PROTECTION and MONO indicators
- Anti-vibration and anti-flux chassis design
- Built in protection circuits
- Variable speed fan
- LED signal monitoring
- XLR-type and phono jack type connector for input
- 2U high and mountable in a 19-inch rack
- Optional monitor remote terminal SRP-30MC



SRP-P150 Rear Panel

Power Amplifier

# SRP-P300\*



- 450 W + 450 W (4 Ω), 300 W + 300 W (8 Ω) or 900 W monaural (8 Ω, BTL connection)
- SIGNAL, CLIP, OVERHEAT, PROTECTION and MONO indicators
- Anti-vibration and anti-flux chassis design
- Variable speed fan
- LED signal monitoring
- XLR-type and Phono jack type connector for input
- Built in protection circuits
- 3U high and mountable in a 19-inch rack
- Optional monitor remote terminal SRP-30MC



SRP-P300 Rear Panel

Power Amplifier

# SRP-P500\*



- 800 W + 800 W (4 Ω), 500 W + 500 W (8 Ω) or 1,600 W monaural (8 Ω, BTL connection)
- High durability and sound quality with simple circuit and reliable chassis
- Monitor/Remote terminal SRP-30MC (D-sub 15-pin for external MUTING control) is installed
- LED LEVEL METER, OVERHEAT, PROTECTION and MONO indicators
- Variable speed fan
- Ground lift switch
- Dual 6 element LED signal meter
- XLR-type connector for input
- Built in protection circuits
- 3U high and mountable in a 19-inch rack



SRP-P500 Rear Panel

Power Amplifier

# SRP-P450\*



- 700 W + 700 W (4 Ω), 450 W + 450 W (8 Ω) or 1,400 W monaural (8 Ω, BTL connection)
- Monitor/Remote terminal SRP-30MC (D-sub 15-pin for external MUTING control) is installed
- More than 110 dB (8 Ω) of S/N ratio
- SIGNAL, CLIP, OVERHEAT, PROTECTION and MONO indicators
- Built in protection circuits
- Variable speed fan
- XLR-type connector and 3P barrier strip terminals for input
- 3U high and mountable in a 19-inch rack

Supplied Accessory

ATT Guard (x 2)

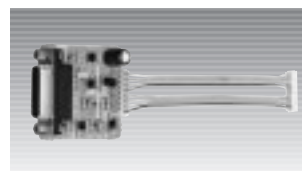


SRP-P450 Rear Panel

## Optional Accessory

### SRP-30MC

Monitor Remote Terminal



- For external MUTE control of the SRP-P300/P150, monitoring of OUTPUT LEVEL and PROTECTION status (Fitted as standard to SRP-P500/P450)
- D-sub 15-pin

## Specifications

Dimensions: 42 (W) x 13 (H) x 57 (D) mm  
(1 5/8 x 1/2 x 2 1/6 inches)

Mass: 32 g (1.1 oz)

\*Not available in USA

## Specifications

	SRP-P26		SRP-P15	
Input Type	Balanced		Balanced	
Input Impedance	More than 20 k $\Omega$		More than 20 k $\Omega$	
Input Connector	XLR-3-31 type/3P barrier strip/ Phone type		XLR-3-31 type/3P barrier strip/ Phone type	
Operation	Stereo	Mono	Stereo	Mono
Speaker Terminals	Screw type/NEUTRIK NL4MP		Screw type/NEUTRIK NL4MP	
Rated Output Power	400 W + 400 W (4 $\Omega$ ) 250 W + 250 W (8 $\Omega$ )	800 W (8 $\Omega$ )	250 W + 250 W (4 $\Omega$ ) 150 W + 150 W (8 $\Omega$ )	500 W (8 $\Omega$ )
Frequency Response	20 Hz to 20 kHz +0/-1 dB		20 Hz to 20 kHz +0/-1 dB	
Input Sensitivity	0 dBu (100 W, 8 $\Omega$ )		0 dBu (100 W, 8 $\Omega$ )	
T.H.D.	Less than 0.1%		Less than 0.1%	
Residual Noise Voltage	Less than 120 $\mu$ V	Less than 240 $\mu$ V	Less than 120 $\mu$ V	Less than 240 $\mu$ V
Max. Amplitude	31 dB	37 dB	31 dB	37 dB
Stacking Output Terminals	—		—	
Power Requirements	AC 230 V, 120 V 50/60 Hz		AC 230 V, 120 V 50/60 Hz	
Power Consumption (IEC 65)	600 W		400 W	
Dimensions (W x H x D)	482 x 132 x 385 mm (19 x 5 1/4 x 15 1/6 inches)		482 x 132 x 385 mm (19 x 5 1/4 x 15 1/6 inches)	
Mass	16 kg (35 lb 5 oz)		15 kg (33 lb 2 oz)	

	SRP-P300		SRP-P150		SRP-P50	
Input Type	Balanced	Unbalanced	Balanced	Unbalanced	Balanced	Unbalanced
Input Impedance	More than 50 k $\Omega$		More than 50 k $\Omega$		More than 20 k $\Omega$	
Input Connector	XLR-3-31 type	Phono jack	XLR-3-31 type	Phono jack	XLR-3-31 type	Phono jack
Operation	Stereo	Mono (BTL)	Stereo	Mono (BTL)	Stereo	Mono (BTL)
Speaker Terminals	Screw type		Screw type		Screw type	
Rated Output Power	450 W + 450 W (4 $\Omega$ ) 300 W + 300 W (8 $\Omega$ )	900 W (8 $\Omega$ )	220 W + 220 W (4 $\Omega$ ) 150 W + 150 W (8 $\Omega$ )	440 W (8 $\Omega$ )	75 W + 75 W (4 $\Omega$ ) 55 W + 55 W (8 $\Omega$ )	150 W (8 $\Omega$ )
Frequency Response	20 Hz to 20 kHz $\pm$ 0.5 dB		20 Hz to 20 kHz $\pm$ 0.5 dB		20 Hz to 20 kHz +0/-0.5 dB	
Input Sensitivity	0 dBu (100 W, 8 $\Omega$ )		0 dBu (100 W, 8 $\Omega$ )		0/-10 dBu selectable (55 W, 8 $\Omega$ )	
T.H.D.	Less than 0.1%		Less than 0.1%		Less than 0.05%	Less than 0.1%
Residual Noise Voltage	Less than 120 $\mu$ V	Less than 240 $\mu$ V	Less than 120 $\mu$ V	Less than 240 $\mu$ V	Less than 120 $\mu$ V	Less than 240 $\mu$ V
Max. Amplitude	31 dB	37 dB	31 dB	37 dB	28 dB	34 dB
Stacking Output Terminals	XLR-3-32 type		XLR-3-32 type		—	
Power Requirements	AC 230 V, 120 V 50/60 Hz*		AC 230 V, 120 V 50/60 Hz		AC 230 V, 120 V 50/60 Hz	
Power Consumption (IEC 65)	800 W		380 W		160 W	
Dimensions (W x H x D)	482 x 132 x 488 mm (19 x 5 1/4 x 19 1/5 inches)		482 x 88 x 488 mm (19 x 3 1/2 x 19 1/5 inches)		482 x 44 x 350 mm (19 x 1 3/4 x 13 7/8 inches)	
Mass	27 kg (59 lb 8 oz)		17 kg (37 lb 8 oz)		8 kg (17 lb 10 oz)	
Optional Accessory	SRP-30MC		SRP-30MC		—	

	SRP-P500		SRP-P450	
Input Type	Balanced		Balanced	
Input Impedance	More than 50 k $\Omega$		More than 50 k $\Omega$	
Input Connector	XLR-3-31 type		XLR-3-31 type	3P barrier strip
Operation	Stereo	Mono (BTL)	Stereo	Mono (BTL)
Speaker Terminals	Screw type		Screw type	
Rated Output Power	Normal 800 W + 800 W (4 $\Omega$ ) 500 W + 500 W (8 $\Omega$ ) Low 300 W + 300 W (2 $\Omega$ )	Normal 1,600 W (8 $\Omega$ )	700 W + 700 W (4 $\Omega$ ) 450 W + 450 W (8 $\Omega$ )	1,400 W (8 $\Omega$ )
Frequency Response	20 Hz to 20 kHz +1/-1 dB		20 Hz to 20 kHz $\pm$ 0.5 dB	
Input Sensitivity	0 dBu (100 W, 8 $\Omega$ )		+3.4 dBu (450 W, 8 $\Omega$ )	
T.H.D.	Less than 0.1%		Less than 0.1%	
Residual Noise Voltage	Less than 120 $\mu$ V	Less than 240 $\mu$ V	Less than 180 $\mu$ V	Less than 240 $\mu$ V
Max. Amplitude	31 dB	37 dB	34.5 dB	36.0 dB
Stacking Output Terminals	XLR-3-32 type		XLR-3-32 type	
Power Requirements	AC 230 V, 120 V 50/60 Hz		AC 230 V, 50/60 Hz	
Power Consumption (IEC 65)	1,100 W		1,100 W	
Dimensions (W x H x D)	482 x 132 x 488 mm (19 x 5 1/4 x 19 1/5 inches)		482 x 132 x 488 mm (19 x 5 1/4 x 19 1/5 inches)	
Mass	34 kg (74 lb 15 oz)		26 kg (57 lb 5 oz)	
Supplied Accessory	—		ATT Guard (2)	

# SECTION 19

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Compression Driver (piece)

## SUP-T14



- 10 cm high-frequency driver for large size PA loudspeaker systems
- Superb sound quality with thin diaphragm and one piece construction at high output levels
- 50 W long term power capacity above 500 Hz
- 10 cm diameter voice coil large format driver with 49 mm exit
- 20 k gauss flux density
- Suitable for movie theater, gymnasium, concert halls etc.

Cone Woofer (piece)

## SUP-L14



- 38 cm cone-type woofer for large size PA loudspeaker systems
- Extended-length voice coil for large low frequency music program
- 600 W (AES 2h) power handling capacity
- Pure aluminum slit wire voice coil wound 18 mm width increases linear excursion ability
- Suitable for movie theater, gymnasium, concert halls etc.

*Speaker System (piece)***SRP-S5000**

- Highest quality full range PA loudspeaker system of studio monitor with a 38 cm woofer and a 10 cm compression driver
- Higher output power and smooth power response for fixed installations and mobile PA applications
- Bi-amped system (Recommended X-over: SRP-F700)
- NEUTRIK NL4MPR for input terminal

*Sub Woofer System (piece)***SRP-B5000**

- Sub woofer system for SRP-S5000 of 1 kW maximum input power
- Two 38 cm woofers of studio monitor quality in a bass-reflex cabinet
- Wooden enclosure with thick birch
- NEUTRIK NL4MPR for input terminal

*Speaker System (piece)***SRP-S3000**

- Compact full range loudspeaker system for SR and PA applications
- Coaxial type unit creates natural sound and accurate sound image perspective
- Long stroke woofer of 35 cm diameter
- 80 by 40 degree dispersion
- Compression driver of 10 cm diaphragm and 4 cm throat
- High density plywood enclosure
- NEUTRIK NL4MPR for input terminal

*Sub Woofer System (piece)***SRP-B3000**

- Sub woofer for SRP-S3000 with high power handling
- 38 cm woofers are built in a bass-reflex cabinet
- High density plywood enclosure featuring standing wave suppression
- NEUTRIK NL4MPR for input terminal

◆ *PA Speaker*

*Speaker System (piece)*

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## **SRP-S1000/S1000W**



- Compact full range loudspeaker for various PA applications of two way system with a 30 cm cone woofer and a compression driver
- CD horn shaped as a part of the cabinet with 60 by 60 degree dispersion
- 126 dB sound pressure level
- Nominal power handling capacity of 300 W
- Molded enclosure with new resin
- NEUTRIK NL4MP and push type for input terminals
- Recommended optional processor SRP-C1000

*Sub Woofer System (piece)*

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## **SRP-B900**



- Sub woofer for low frequency reinforcement
- 38 cm woofer of powerful and clear bass sound
- Nominal power handling capacity of 350 W
- High durability rigid plywood cabinet covered with smooth texture for mobile application
- XLR-type (male) and screw type for input terminals

*Speaker System (piece)*

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## **SRP-S900**



- Compact full range loudspeaker for various PA applications of two way system with a 30 cm cone woofer and a compression driver
- CD horn shaped as a part of the cabinet with 60 by 60 degree dispersion
- 122 dB sound pressure level
- Nominal power handling capacity of 200 W
- NEUTRIK NL4MP and push-type for input terminals
- Recommended optional processor SRP-C1000

*Speaker System (piece)***SRP-S720/S720W**

- Full range loudspeaker with a 20 cm woofer and a horn-type tweeter in a bass-reflex enclosure
- Nominal power handling capacity of 110 W
- Magnetically shielded for AV use
- Either horizontal or vertical mounting with optional bracket
- Punched metal speaker grille
- For small to mid size PA application and AV presentation

*Speaker System (pair)***SRP-S520**

- Full range loudspeaker in a slim vented enclosure with dual 12 cm woofers and a 5 cm tweeter
- Magnetically shielded for AV use
- Nominal power handling capacity of 80 W
- Horizontal or vertical mounting with optional bracket
- Punched metal speaker grille
- For small size PA application and AV presentation

*Speaker System (pair)***SRP-S420**

- Full range loudspeaker with a 16 cm cone type woofer and a 8 cm cone tweeter
- Magnetically shielded for AV use
- Nominal power handling capacity of 60 W
- Optimized for vocal reproduction
- Horizontal or vertical mounting with optional bracket
- Punched metal speaker grille
- For small size PA application and AV presentation

*Speaker System (pair)***SRP-S320/S320W**

- Full range loudspeaker with a 12 cm driver
- Nominal power handling capacity of 50 W
- Compact molded cabinet with twin duct bass-reflex configuration
- Horizontal or vertical mounting with optional bracket
- For small size PA application and AV presentation

◆ *PA Speaker*

*All-weather Speaker System (pair)*

## **SRP-S31P**



- Waterproof loudspeaker of molded polypropylene enclosure with an anti-rust finished 12 cm waterproof carbon cloth driver
- Nominal power handling capacity of 40 W
- For high temperature and humidity environments
- Optional anti-rust mounting hardware for wall or ceiling

*Water-resistant Speaker System (piece)*

## **SRP-S30P**



- Full range water-resistant loudspeaker with molded ABS enclosure
- Nominal power handling capacity of 25 W
- Anti-rust finished 16 cm waterproof driver
- For high humid places, such as pool sides, aquariums, spa etc.
- Optional anti-rust mounting hardware for wall or ceiling

*Speaker System (piece)*

## **SRP-S730**



- Full range loudspeaker with a 20cm cone woofer and a horn tweeter for foldback on a floor or mounting on a wall or ceiling
- Nominal power handling capacity of 110 W
- Punched metal speaker grille
- NEUTRIK NL4MPR connector and push terminal

*Speaker System (piece)*

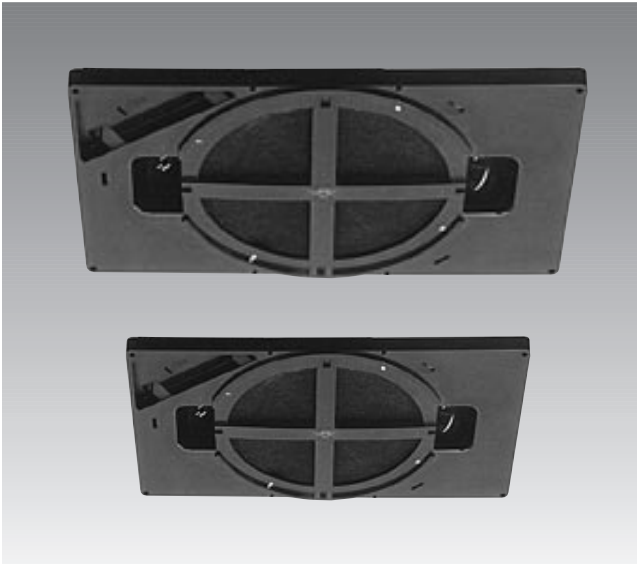
## **SRP-S150**



- Full range low impedance ceiling loudspeaker of molded enclosure and aluminum front grille
- Nominal power handling capacity of 50 W
- For use in 100 V line, optional matching transformer PA-10T can be attached to the enclosure.

Speaker System (pair)

## PA-S163/S123



- Hi-impedance ceiling speaker with 16 cm or 12 cm driver units
- Lightweight and spring catch for easy mounting
- 3.3 kΩ or 10 kΩ impedance selectable
- Optional speaker grille, PA-F121/F161/F162 is required for installation.

### Optional Accessories

#### PA-F161

Speaker Grille (pair)



- For PA-S163
- White metal

#### PA-F162

Speaker Grille (pair)



- For PA-S163
- White fabric

#### PA-F121

Speaker Grille (pair)



- For PA-S123
- White metal

Speaker System (piece)

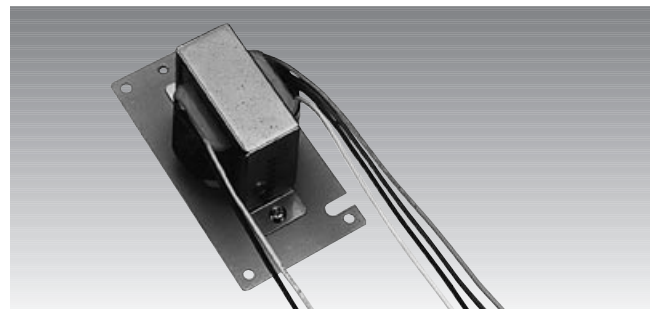
## PA-S102/S102T



- Ceiling mounting water-resistant speaker system
- 12 cm polypropylene drive unit
- PA-S102: low impedance type
- PA-S102T: high impedance type
- Fully protected against damage from moisture and humidity
- Nominal power handling capacity of 10 W (4 Ω) for PA-S102
- Nominal power handling capacity of 1 W to 10 W (5 kΩ to 500 Ω) at 70 V line (selectable) for PA-S102T

Matching Transformer (piece)

## PA-10T



- 70/100 V line transformer
- Selectable voltage and output taps

	8 Ω Speaker Unit		4 Ω Speaker Unit	
	Impedance	Power	Impedance	Power
100 V line	10 kΩ	1 W	5 kΩ	2 W
	3.3 kΩ	3 W	1.7 kΩ	6 W
	1 kΩ	10 W	*	*
70 V line	10 kΩ	0.5 W	5 kΩ	1 W
	3.3 kΩ	1.5 W	1.7 kΩ	3 W
	1 kΩ	5 W	500 kΩ	10 W

\* This connection is not recommended.

This unit can be attached on outside of enclosures for SRP-S320, S30P, S31P and S150

Dimensions: 97 (W) x 52 (H) x 45 (D) mm  
(3 4/5 x 2 x 1 6/7 inches)  
Mass: 340 g (12 oz)

## Specifications

	SRP-S320/S320W	SRP-S420	SRP-S520	SRP-S720/S720W
Speaker System	One way, bass reflex type	2-way, bass reflex type	2-way, bass reflex type	2-way, bass reflex type
Speaker Unit	Full range 12 cm dia. cone type x 1	Woofers: 16 cm dia. cone type x 1 Tweeter: 8 cm dia. cone type x 1	Woofers: 12 cm dia. cone type x 2 Tweeter: 5 cm dia. cone type x 1	Woofers: 20 cm dia. cone type x 1 Tweeter: Horn x 1
Rated Impedance	8 Ω	8 Ω	8 Ω	8 Ω
Power Handling Capacity Max.	50 W 150 W	60 W 180 W	80 W 240 W	110 W 300 W
Sensitivity	89 dB/W/m	91 dB/W/m	90 dB/W/m	92 dB/W/m
Frequency Range	75 Hz - 17 kHz	70 Hz - 20 kHz	65 Hz - 20 kHz	50 Hz - 20 kHz
Input Terminals	Push terminal	Push terminal	Push terminal	Push terminal
Dimensions (W x H x D)	220 x 144 x 160 mm (8 3/4 x 5 3/4 x 6 3/8 inches)	195 x 320 x 230 mm (7 3/4 x 12 5/8 x 9 1/8 inches)	170 x 450 x 215 mm (6 3/4 x 17 3/4 x 8 1/2 inches)	280 x 450 x 255 mm (11 1/8 x 17 3/4 x 10 1/8 inches)
Mass	2 kg (4 lb 7 oz)	4.5 kg (9 lb 15 oz)	6.6 kg (14 lb 9 oz)	8 kg (17 lb 10 oz)
Supplied Accessory	—	—	—	—
Optional Tripod	MU-761*	MU-761*	MU-761*	MU-761*
Optional Wall Bracket	S320: MU-533M S320W: MU-534M	MU-533M/753M	MU-533M/753M	S720: MU-753M S720W: MU-754M
Optional Ceiling Bracket	S320: MU-533S/533M S320W: MU-534M	MU-533S/533M/753S/753M	MU-533S/533M/753S/753M	S720: MU-753S/753M S720W: MU-754M

\*Only short side of the SRP-S520 and SRP-S720 can be attached to the MU-761

	SRP-S730	SRP-S1000/S1000W	SRP-S900	SRP-B900
Speaker System	2-way, bass reflex type	2-way, bass reflex type	2-way, bass reflex type	One way, bass reflex type
Speaker Unit	Woofers: 20 cm dia. cone x 1 Tweeter: Horn x 1	Woofers: 30 cm dia. cone type x 1 Tweeter: 2.54 cm throat compression driver	Woofers: 30 cm dia. cone type x 1 Tweeter: 2.54 cm throat compression driver	Woofers: 38 cm dia. cone type x 1
Rated Impedance	8 Ω	8 Ω	8 Ω	8 Ω
Power Handling Capacity Max.	110 W 300 W	300 W 900 W	200 W 600 W	350 W 1,050 W
Sensitivity	92 dB/W/m	101.5 dB/W/m	99 dB/W/m	96 dB/W/m
Frequency Range	62 Hz~20 kHz	75 Hz~25 kHz	70 Hz~25 kHz	30 Hz~500 Hz
Input Terminals	NEUTRIK SPEAKON NL4MPR Push terminal	NEUTRIK SPEAKON NL4MP Push terminal	NEUTRIK SPEAKON NL4MP Push terminal	Screw terminal XLR-3-32(1:NC 2:+ 3:-)
Dimensions (W x H x D)	280 x 450 x 310 mm (11 x 17 3/4 x 12 1/5 inches)	400 x 575 x 325 mm (15 3/4 x 22 3/5 x 12 4/5 inches)	400 x 575 x 325mm (15 3/4 x 22 3/5 x 12 4/5 inches)	545 x 758 x 453 mm (21 1/2 x 29 7/8 x 17 7/8 inches)
Mass	7.5 kg (16 lb 8 oz)	19 kg (41 lb 14 oz)	15 kg (33 lb 1 oz)	45 kg (99 lb)
Supplied Accessory	Foot (x 4)	—	—	—
Optional Tripod	—	MU-882	MU-882	—
Optional Wall Bracket	MU-753M	S1000: MU-101+MU-103 S1000W: MU-101W+MU-103	MU-101+MU-103	—
Optional Ceiling Bracket	MU-753S/753M	S1000: MU-101+MU-102 S1000W: MU-101W+MU-102	MU-101+MU-102	—

	SRP-S5000	SRP-B5000	SRP-S3000	SRP-B3000
Speaker System	2-way, bass reflex type	Bass reflex type	2-way, bass reflex type	Bass reflex type
Speaker Unit	Woofers: 38 cm dia. cone type x 1 Tweeter: 10 cm dia. compression driver x 1	Woofers: 38 cm dia. cone type x 2	Woofers: 35 cm dia. cone type x 1 Tweeter: 10 cm dia. compression driver x 1	Woofers: 38 cm dia. cone type x 2
Rated Impedance	Tw 12.5 Ω/Wf 8 Ω	8 Ω/unit	Tw 12.5 Ω/Wf 8 Ω	8 Ω x 2 (700 W)
Power Handling Capacity Max.	Tw 32 W/Wf 300 W	200 W x 2 (IEC 100h) 500 W x 2	Tw 75 W/Wf 500 W Tw 225 W/Wf 1,500 W	350 W x 2 (700 W) 1,050 W x 2 (2,100 W)
Sensitivity	Tw 110 dB/W/m Wf 98 dB/W/m	96 dB/W/m	Tw 111 dB/W/m Wf 98 dB/W/m	102 dB/W/m
Frequency Range	40 Hz~24 kHz	28 Hz~800 Hz	45 Hz~20 kHz	30 Hz~500 Hz
Input Terminals	NEUTRIK SPEAKON NL4MPR (x 2)	NEUTRIK SPEAKON NL4MPR (x 2)	NEUTRIK SPEAKON NL4MPR (x 2)	NEUTRIK SPEAKON NL4MPR (x 2)
Dimensions (W x H x D)	502 x 587 x 822 mm (19 4/5 x 23 1/5 x 32 1/3 inches)	700 x 1,020 x 695 mm (27 5/8 x 40 1/4 x 27 3/8 inches)	395 x 510 x 388 mm (15 3/5 x 20 x 15 1/4 inches)	838 x 598 x 626 mm (33 x 23 3/5 x 24 5/8 inches)
Mass	69 kg (152 lb 2 oz)	122 kg (269 lb)	37 kg (81 lb 9 oz)	70 kg (154 lb 6 oz)
Supplied Accessory	—	—	—	—

## Specifications

	SRP-S30P	SRP-S31P	SRP-S150	PA-S102
Speaker System	One way, closed enclosure	One way, bass reflex type	Ceiling mounting	One way, ceiling mounting
Speaker Unit	Full range 16 cm dia. x 1	Full range 12 cm dia. x 1	Full range 12 cm dia. x 1	Full range 12 cm dia. x 1
Nominal Impedance	8 Ω	8 Ω	8 Ω	4 Ω
Power Handling Capacity Max.	25 W 50 W	40 W 120 W	50 W 150 W	10 W 20 W
Sensitivity	89 dB/W/m	88 dB/W/m	89 dB/W/m	89 dB/W/m
Frequency Range	80 Hz - 15 kHz	75 Hz - 15 kHz	80 Hz - 18 kHz	80 Hz - 16 kHz
Input Terminals	Fixed Cable	Fixed Cable	Push terminal	Fixed Cable
Dimensions (W x H x D)	259 x 212 x 174 mm (10 1/4 x 8 3/8 x 6 7/8 inches)	220 x 145 x 164 mm (8 3/4 x 5 3/4 x 6 1/2 inches)	275 (diameter)/132.5 (depth) mm (10 4/5 / 5 1/5 inches)	180 (diameter)/76 (depth) mm (7 1/8 / 3 inches)
Mass	2.3 kg (5 lb 1 oz)	2.3 kg (5 lb 1 oz)	2.8 kg (6 lb 3 oz)	0.9 kg (2 lb)
Supplied Accessories	Wall bracket (x 1) Screw (x 2) Washer (x 2)	Cord cap (x 4)	Wire (x 1)	Cord cap (x 1) Template (x 1)
Optional Tripod	—	—	—	—
Optional Wall Bracket	MU-533MA	MU-533MA	—	—
Optional Ceiling Bracket	MU-533MA	MU-533MA	—	—

	PA-S102T	PA-S163	PA-S123
Speaker System	One way, ceiling mounting	One way, ceiling mounting	One way, ceiling mounting
Speaker Unit	Full range 12 cm dia. x 1	16 cm dia. full range	12 cm dia. full range
Nominal Impedance	500 Ω/1.7 kΩ/5 kΩ	3.3 kΩ or 10 kΩ	3.3 kΩ or 10 kΩ
Power Handling Capacity	10 W/3 W/1 W (70 V line) - * 1/6 W/2 W (100 V line)	3 W (3.3 kΩ), 1 W (10 kΩ) (at 100 V line)	3 W (3.3 kΩ), 1 W (10 kΩ) (at 100 V line)
Sensitivity	89 dB/W/m	92 dB/W/m	92 dB/W/m
Frequency Range	100 Hz - 16 kHz	70 Hz - 15 kHz	120 Hz - 15 kHz
Input Terminals	Fixed Cable	Spring catch, no screws used	Spring catch, no screws used
Dimensions	180 (diameter)/76 (depth) mm (7 1/8 / 3 inches)	Square: 230 x 174 mm H: 61 mm (Square: 9 x 6 4/5 H: 2 2/5 inches)	Square: 215 x 134 mm H: 60 mm (Square: 8 2/5 x 5 1/4 H: 2 2/5 inches)
Mass.	1.3 kg (2 lb 14 oz)	0.62 kg (1 lb 6 oz)	0.57 kg (1 lb 4 oz)
Supplied Accessories	Cord cap (x 1) Template (x 1)	—	—
Optional Grille	—	PA-F161,PA-F162	PA-F121

\*PA-S102T: 500 Ω can't be used at 100V line.

\*\*Installing hole diameter: (PA-S163) 200 mm (PA-S123) 150mm

	SUP-T14	SUP-L14
Speaker System	Compression Driver	Cone Woofer
Speaker Unit	Throat diameter: 49 mm Voice coil diameter: 100 mm	Woofer: 38cm cone type Voice coil diameter: 100 mm
Rated Impedance	12.5 Ω	8 Ω
Power Handling Capacity Max.	50 W (IEC 100h) 100W	600 W (AES 2h) —
Sensitivity	112 dB/W/m with horn	98 dB/W/m
Frequency Range	500 Hz - 23 kHz	35 Hz - 2.5 kHz
Input Terminals	Push terminal	Push terminal
Dimensions	230 (diameter)/162 (depth) mm (9 / 6 1/7 inches)	388 (diameter)/156 (depth) mm (15 1/3 / 6 inches)
Mass.	12.5 kg (27 lb 9 oz)	11 kg (24 lb 4 oz)
Supplied Accessories	Bolt (x 4)	—





# SECTION 20

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	<b>Peripheral</b>
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Matching Transformer

# SRP-MT300



- High power matching transformer between low impedance power amplifiers
- Max. 150 W of power amplifier is transformed to 100 V line
- Emergency input available
- High quality sound for paging system



SRP-MT300 Rear Panel

## Specifications

Line		
	Connector	Circuit Format
Input	XLR-3-31 type	Balanced: No.1 G, No.2 H, No.3 C
Output	XLR-3-32 type	Balanced: No.1 G, No.2 H, No.3 C

Transformer		
	Impedance	Terminal Type
Input	Conformance Amplifier Impedance: 8 Ω	Binding post
Output	Conformance Load Impedance: 67-10,000 Ω	Screw type terminal

Rated Output Power: 150 W + 150 W (100 V line, when connected to 150 W + 150 W amplifier such as SRP-P15)  
50 W + 50 W (70 V line, when connected to 50 W + 50 W amplifier)

Frequency Response: 50 Hz to 15 kHz  
(50 Hz-1.5 ±1 dB, 15 kHz -3 ±1.5 dB)

T.H.D.: Less than 0.01%

Dimensions: 482 (W) x 88 (H) x 220 (D) mm  
(19 x 3 1/2 x 8 2/3 inches)

Mass: 6.3 kg (13 lb 14 oz)

Power Sequencer/Conditioner

# SRP-D230\*



- 10 AC power supply outlets (8 switched and 2 unswitched)
- Line noise filter
- Two-group of 10 A outlets switched sequentially
- External remote control or main/satellite operation of multiple units
- Input terminal from emergency equipment to control this unit
- Control-S output connectors for Sony's projector and roop through from input to output



SRP-D230 Rear Panel

## Specifications

Outlet	
Terminal Form:	IEC320 type
Number of Outlets (Switched):	A-line=5 B-line=3 C-line=2 (One on the front panel, One on the rear panel)
(UN switched):	

Power	
Rated Current:	Total 16A max. (13A in UK/HK) 10A max./each outlet
Circuit Breaker Trip:	20 A

Delay Sequence	
Turn-on time:	A-line=Approx. 1 s B-line=Approx. 2 s
Turn-off time:	A-line=Approx. 7 s* B-line=Approx. 1 s
Emergency Turn-off:	No wait

\*Can be remodeled to 2 min by Sony's dealer

Remote Port	
Input type:	Make contact/Open collector (Active Low)
Output type:	Open collector
Absolute Max. Remote Control Voltage:	30 V

General	
Power Requirements:	AC 230V 50/60 Hz
Dimensions:	482 (W) x 44 (H) x 175 (D) mm (19 x 1 3/4 x 7 inches)
Mass:	2.7 kg (5 lb 15 oz)

\*Not available in USA



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MEMO

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A series of horizontal dotted lines for writing.



# MEMO

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A series of horizontal dotted lines for writing.

The Sony logo is centered in a white, bold, sans-serif font. The background is a dark blue gradient with several overlapping, semi-transparent white circles of varying sizes, creating a dynamic, abstract pattern.

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