

STR-DB925


SERVICE MANUAL

AEP Model
UK Model
Australian Model



Photo: BLACK

This receiver incorporates the Dolby* Pro Logic Surround system and the DTS** Digital Surround System.

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SPECIFICATIONS

Amplifier section

POWER OUTPUT

Stereo mode (4 ohms DIN 1 kHz)
100 W + 100 W

Surround mode

(4 ohms DIN 1 kHz)
Front: 100 W + 100 W
Center^a: 100W
Rear^a: 100 W + 100 W

^a) Depending on the sound field settings and the source, there may be no sound output.

Frequency response

PHONO:

RIAA equalization
curve
±0.5 dB

CD, TAPE, MD/DAT,
DVD, TV/LD,
VIDEO 1, 2, and
VIDEO 3:
10 Hz - 50 kHz
+0.5/-2 dB (with
sound field, tone,
and bass booster
bypassed)

Inputs (Analog)

PHONO:

Sensitivity: 2.5 mV
Impedance:
50 kilohms
S/N^b: 75 dB (A,
2.5 mV^c)

CD, DVD, TAPE, MD/
DAT, TV/LD,
VIDEO 1, 2, 3, and
5.1 INPUT:

Sensitivity: 150 mV
Impedance:
50 kilohms
S/N^b: 82 dB (A,
150 mV^c)

^b) 78' IHF

^c) Weighted network, input level

Inputs (Digital)

DVD (coaxial):
Sensitivity: -
Impedance: 75 ohms
S/N: 100 dB (A,
20 kHz LPF)

DVD, TV/LD, MD/
DAT (Optical):
Sensitivity: -
Impedance: -
S/N: 100 dB (A,
20 kHz LPF)

Outputs

TAPE, MD/DAT (REC
OUT); VIDEO 1, 2
(AUDIO OUT):
Voltage: 150 mV,
Impedance:
10 kilohms
WOOFER:
Voltage: 2 V
Impedance:
1 kilohms
PHONES:
Accepts low- and
high-impedance
headphones

BASS BOOST +6 dB at 70 Hz

— Continued on next page —

FM STEREO/FM-AM RECEIVER



SONY®

Sampling Frequency
48 kHz

EQ
BASS:
100 Hz~1.0kHz
(21 steps)
MID:
500 Hz~5.0kHz
(21 steps)
TREBLE:
1.0 kHz~10kHz
(21 steps)
Gain levels:
±10 dB, 1 dB step

FM tuner section

Tuning range 87.5 - 108.0 MHz

Antenna terminals
75 ohms, unbalanced

Sensitivity Mono: 18.3 dBf,
2.2 µV/75 ohms
Stereo: 38.3 dBf,
22.5 µV/75 ohms

Usable sensitivity
11.2 dBf,
1 µV/75 ohms (IHF)

S/N Mono: 76 dB
Stereo: 70 dB

Harmonic distortion at 1 kHz
Mono: 0.3%
Stereo: 0.5%

Separation 45 dB at 1 kHz

Frequency response
30 Hz - 15 kHz
+0.5/-2 dB

Selectivity 60 dB at 400 kHz

AM tuner section

Tuning range 531 - 1,602 kHz
(with 9-kHz tuning scale)

Antenna Loop antenna

Usable sensitivity
50 dB/m (at 999 kHz)

S/N 54 dB (at 50 mV/m)

Harmonic distortion
0.5 % (50 mV/m,
400 kHz)

Selectivity 35 dB

Video section

Inputs 1 Vp-p 75 ohms

Outputs 1 Vp-p 75 ohms

General

System Tuner section:
PLL quartz-locked
digital synthesizer
system
Preamplifier section:
Low-noise NF type
equalizer
Power amplifier
section:
Pure-complementary
SEPP

Power requirements
230 V AC, 50/60 Hz

Power consumption
270 W

AC outlets 1 switched maximum
100 W

Dimensions 430 × 160 × 410 mm
including projecting
parts and controls

Mass (Approx.)
13 kg

Supplied accessories

- FM wire antenna (1)
- AM loop antenna (1)
- Remote commander
RM-LJ301 (remote) (1)
- LR6 (size-AA) alkaline
batteries (3)

Design and specifications are subject
to change without notice.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

TABLE OF CONTENTS


1. SERVICING NOTE	3	3-12. Printed Wiring Board – Display Section –	35
2. GENERAL	5	3-13. Schematic Diagram – Panel Section –	37
3. DIAGRAMS		3-14. Printed Wiring Board – Panel Section –	39
3-1. Circuit Boards Location	6	3-15. Schematic Diagram – Back Panel Section –	41
3-2. Block Diagrams		3-16. Printed Wiring Board – Back Panel Section –	43
• DSP Section	7	3-17. Schematic Diagram – Volume Section –	45
• Input Section	9	3-18. Printed Wiring Board – Volume Section –	47
• Power Section	11	3-19. Schematic Diagram – D In/Out Section –	49
• Dolby Section	13	3-20. Printed Wiring Board – D In/Out Section –	50
3-3. Schematic Diagram – Input Section –	17	3-21. Schematic Diagram – Digital (1/2) Section –	51
3-4. Printed Wiring Board – Input Section –	19	3-22. Schematic Diagram – Digital (2/2) Section –	53
3-5. Schematic Diagram – Power AMP Section –	21	3-23. Printed Wiring Board – Digital Section –	55
3-6. Printed Wiring Board – Power AMP Section –	23	3-24. IC Block Diagrams	57
3-7. Schematic Diagram – Trans Section –	25	3-25. IC Pin Functions	60
3-8. Printed Wiring Board – Trans Section –	27	4. EXPLODED VIEWS	
3-9. Schematic Diagram – Rear AMP Section –	29	4-1. Case and Back Panel Section	68
3-10. Printed Wiring Board – Rear AMP Section –	31	4-2. Front Panel Section	69
3-11. Schematic Diagram – Display Section –	33	4-3. Chassis Section	70
		5. ELECTRICAL PARTS LIST	71


SECTION 1 SERVICING NOTE

FACTORY SET

Mode which sets the preset settings of the unit to that at shipment.

Procedure:

With the power off, press the  button while pressing the **SET UP** and **SOUND FIELD ON/OFF** buttons to turn ON the power. “FACTORY SET” will be displayed and FACTORY PRESET will be executed.

As the “DEMO MODE” will automatically be set about 1 minute later, press the  button to turn OFF the power.


INITIALIZATION

This mode erases all the preset settings of the unit.

Use this mode when returning the unit to customer.

Procedure:


With the power off, press the  button while pressing the **DISPLAY** and **SOUND FIELD ON/OFF** buttons to turn ON the power.


As the “DEMO MODE” will automatically be set about 1 minute later, press the  button to turn OFF the power.

FLUORESCENT INDICATOR TUBE AND LED LIGHTING CHECK

Mode which lights up the whole fluorescent indicator tube or partially.

Procedure:

With the power off, press the  button while pressing the **SET UP** and **SOUND FIELD MODE** buttons to turn ON the power. The whole fluorescent display tube will light up.

As the “DEMO MODE” will automatically be set about 1 minute later, press the  button to turn OFF the power.

DEMO MODE (NOT USED IN SERVICE)

Mode for demonstration

Procedure:

With the power off, press the  button while pressing the **CURSOR** button to turn ON the power.

To end, press the  button to turn OFF the power.

PRECAUTIONS ON REMOVING THE FRONT PANEL

When the front panel is removed, the front panel board and VOLUME board cannot be connected, thus causing the following problems.

- The MASTER VOLUME LED does not light up
- The MASTER VOLUME cannot be turned UP/DOWN using the remote controller.

DSP SELF DIAGNOSIS FUNCTION

This unit is equipped with a DSP self-diagnosis function.

After completing self-diagnosis, the “DSP TEST MODE” can be set, where signals input from the external equipment will be assigned to the designated channels as shown in the table below.

Table-1 Assignment of Signals in DSP TEST MODE

Input Signal	Output To
FRONT L-ch	FRONT L-ch + CENTER + REAR L-ch
FRONT R-ch	FRONT R-ch + WOOFER + REAR R-ch

Procedure:

1. Connect external equipment such as CD and DVD players using the DIGITAL cable (optical or coaxial).
2. Rotate the **FUNCTION** knob, and switch to the FUNCTION connecting the external equipment.
3. Press the **INPUT MODE** button, and select the type of DIGITAL signal connected at 1.
 (“AUTO INPUT” is recommended for convenience.)
4. Press the **I/O** button to turn OFF the power.
5. Press the **I/O** button while pressing the **SET UP** and **SOUND FIELD GENRE** buttons to turn ON the power.
6. Perform DSP check in the following sequence to display the results. If no problems, “DSP NO ERROR” will be displayed on the fluorescent indicator tube, and the reference signals of the 1 KHz internal oscillation will be output to FRONT, REAR, CENTER, and WOOFER.

Sequence :

- ① DSP1 BOOT ERROR CHECK (DSP1:IC1301)
- ↓
- ② DSP1 REPLAY ERROR CHECK
- ↓
- ③ DSP2 RAM ERROR CHECK (DSP2:IC1402 RAM:IC1402)
- ↓
- ④ DSP2 REPLAY ERROR CHECK

Refer to Table 2 if errors occur and perform the repairs.

Table-2 Display of Errors and Main Causes

Error Message	Possible Cause and Countermeasure
DSP1 BOOT ERROR	Faulty connection of IC1301, fault around the power supply of IC1301
DSP1 REPLY ERROR	Fault of peripheral circuit of Pin ②⑩ of IC1301
DSP2 RAM ERROR	Faulty connection with RAM (IC1402)
DSP2 REPLY ERROR	Faulty communication with microprocessor, fault of peripheral circuit of Pin ⑬ of IC1401, fault around power supply and clock of IC1401

7. Each time the **[<]**, **[^]**, **[v]**, or **[>]** button is pressed, the display changes between “DSP TEST MODE” and “DSP NO ERROR”.
 When “DSP TEST MODE” is displayed, the signals input from the external equipment connected at 1. will be assigned to the outputs as shown in Table 1.
 When “DSP NO ERROR” is displayed, the reference signal of the internal oscillation will be output to the FRONT, REAR, CENTER, and WOOFER channels.
 (Each time the **[<]**, **[^]**, **[v]**, or **[>]** button is pressed, self-diagnosis will be executed from ③ of step 6.)
8. To end, press the **I/O** button and turn OFF the power.

Note:

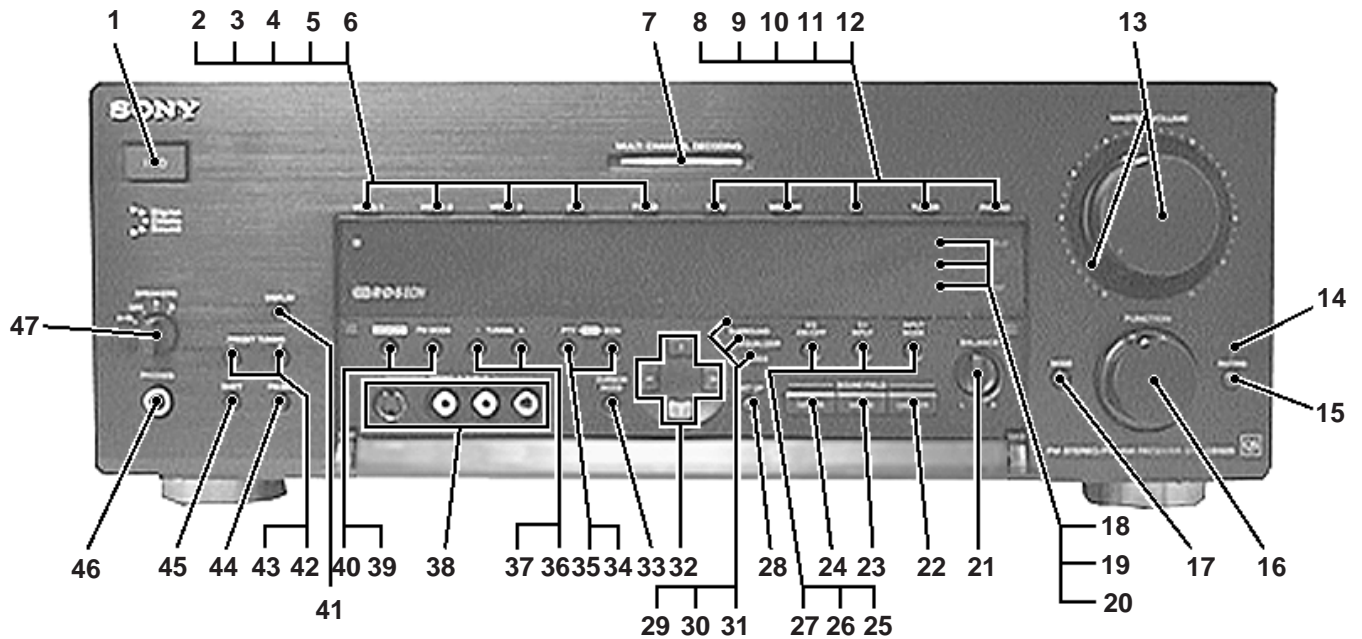
Do not touch other buttons except **[<]**, **[^]**, **[v]**, or **[>]** during this mode with a specific purpose.

Messages are displayed in the same way as in normal operations.

Operations itself will not be normal here, therefore if other buttons or knobs are touched by accident and the message is changed, press the **I/O** button to turn OFF the power and exit the mode.

SECTION 2 GENERAL

Front Panel Descriptions



LOCATION OF PARTS AND CONTROLS

- | | |
|-------------------------------------|---------------------------|
| 1 I/⏻ (power) switch | 25 INPUT MODE button |
| 2 VIDEO 1 indicator | 26 5.1 INPUT button |
| 3 VIDEO 2 indicator | 27 EQ ON/OFF button |
| 4 VIDEO 3 indicator | 28 SET UP button |
| 5 DVD indicator | 29 SURROUND indicator |
| 6 TV/LD indicator | 30 EQUALIZER indicator |
| 7 MULTI CHANNEL DECODING indicator | 31 INDEX indicator |
| 8 TAPE indicator | 32 <, ^, v, > buttons |
| 9 MD/DAT indicator | 33 SET UP button |
| 10 CD indicator | 34 RDS EON button |
| 11 TUNER indicator | 35 RDS PTY button |
| 12 PHONO indicator | 36 TUNING + button |
| 13 MASTER VOLUME knob and indicator | 37 TUNING - button |
| 14 MUTING indicator | 38 VIDEO 3 INPUT jacks |
| 15 MUTING button | 39 FM MODE button |
| 16 FUNCTION knob | 40 MEMORY button |
| 17 MODE switch | 41 DISPLAY button |
| 18 SOUND FIELD indicator | 42 PRESET TUNING + button |
| 19 EQ indicator | 43 PRESET TUNING - button |
| 20 BASS BOOST button | 44 FM/AM button |
| 21 BALANCE knob | 45 SHIFT button |
| 22 SOUND FIELD ON/OFF button | 46 PHONES jack |
| 23 SOUND FIELD MODE button | 47 SPEAKERS knob |
| 24 SOUND FIELD GENRE button | |

SECTION 3 DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION

