JBL SYNTHESIS®

# SDP-RFD
# AC-3®/RF
# DEMODULATOR
# (120V/230V)

INSTALLATION/
TECHNICAL
MANUAL

## Unpacking and Inspection

Save all packing materials in case you ever need to ship the unit. Thoroughly inspect the unit and packing materials for signs of damage. Report any shipment damage to the carrier at once; report equipment malfunction to your dealer.

## Precautions

Save these instructions for later use.

Follow all instructions and warnings marked on the unit.

Always use with the correct line voltage. Refer to the manufacturer's operating instructions for power requirements. Be advised that different operating voltages may require the use of a different line cord and/or attachment plug.

Do not install the unit in an unventilated rack, or directly above heat-producing equipment such as power amplifiers. Observe the maximum ambient operating temperature listed in the product specification.

Slots and openings on the case are provided for ventilation; to ensure reliable operation and prevent it from overheating, these openings must not be blocked or covered. Never push objects of any kind through any of the ventilation slots. Never spill a liquid of any kind on the unit.

This product is equipped with a 3-wire grounding type plug. This is a safety feature and should not be defeated.

To prevent shock or fire hazard, do not expose the unit to rain or moisture, or operate it where it will be exposed to water.

Do not attempt to operate the unit if it has been dropped, damaged, exposed to liquids, or if it exhibits a distinct change in performance indicating the need for service.

This unit should only be opened by qualified service personnel. Removing covers will expose you to hazardous voltages.


This triangle, which appears on your component, alerts you to the presence of uninsulated, dangerous voltage inside the enclosure...voltage that may be sufficient to constitute a risk of shock.

This triangle, which appears on your component, alerts you to important operating and maintenance instructions in this accompanying literature.

## Acknowledgements

The SDP Series is manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more of the following patents: U.S. numbers 3,632,886, 3,746,792 and 3,959,590; Canadian numbers 1,004,603 and 1,037,877. “Dolby” and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

# 1.
# BASIC OPERATION

## INTRODUCTION TO THE SDP-RFD AC-3®/RF DEMODULATOR

1

## INTRODUCTION

*Congratulations on your purchase of the Synthesis SDP-RFD AC-3®/RF Demodulator. The SDP-RFD AC-3®/RF Demodulator is designed to interface between a laser disc player (with an AC-3®/RF Demodulator output), and any Dolby® Digital decoder which accepts a standard AC-3® signal (like our SDP-2). Because "AC-3® ready" laser disc players use a separate Radio Frequency (RF) modulated output to carry the Dolby® Digital information, special considerations must be made. While this type of transmission works perfectly well, our engineers were rightfully reluctant to inject line-level RF directly into the meticulously designed SDP-2. The solution is the SDP-RFD AC-3®/RF Demodulator.*

*The SDP-RFD Demodulator keeps potential RF interference away from the sensitive preamp/processor stage while providing highly useful improvements in AC-3® signal quality. By placing the requisite demodulation circuitry in its own enclosure with dedicated power supplies and grounding, the potential to degrade digital-to-analog conversion and analog audio signals within the preamp/processor is eliminated.*

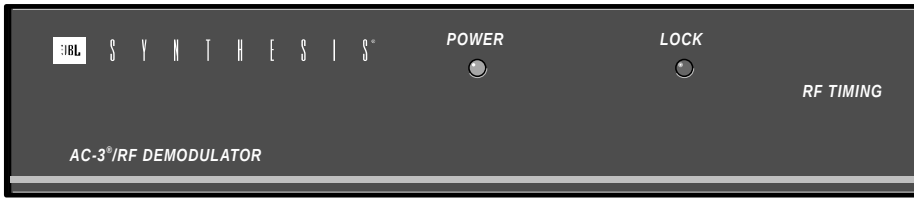
*The SDP-RFD Demodulator incorporates fully automated "intelligent" switching between S/PDIF and AC-3®/RF inputs, meaning that any laser disc will be decoded to its maximum inherent quality. A low voltage "turn on trigger" input and output are included for interconnection to the Synthesis SDP-2 and S-Series Amplifiers. The stringently designed outboard power supply ensures maximum signal purity.*

*We have designed this manual to provide a brief overview of the demodulator, as well as to provide the information necessary for safe installation and operation. We trust that the time you invest in reviewing these brief instructions will be rewarded by the best possible performance and longevity of your equipment.*

***NOTE: When power is off, the SDP-RFD AC-3®/RF Demodulator automatically outputs the COAXial digital input.***

***POWER***
*This LED will light whenever power to the unit is supplied and enabled.*

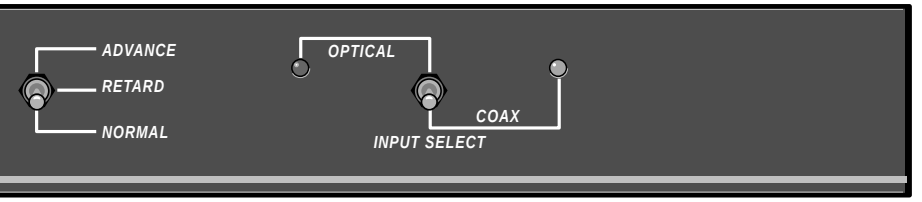
***LOCK***
*This LED will light whenever is present, the LED will rema*




***RF TIMING***
*3-position switch which minimizes signal errors, providing optimal timing for specific brands of laser disc players.*

| ***Recommended Settings*** | |
|---|---|
| ***Advance*** | *Panasonic, Runco* |
| ***Retard*** | *Denon* |
| ***Normal*** | *All others* |

*the unit senses an AC-3®/RF signal. When no such signal*
*in off, and the INPUT SELECT LED will light.*




***INPUT SELECT***

*2-position switch for selection of the type of NON-AC-3®/RF digital output you are using from your laser disc player.*

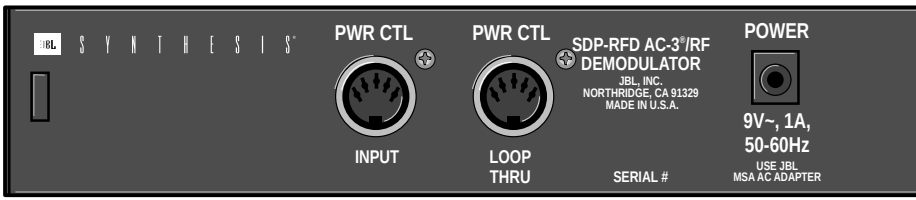
***Connections between the SDP-RFD AC-3®/RF Demodulator and associated equipment should be made with all units UNPLUGGED!***

***RF IN***

*Connect this input to the output with a 75Ω coax short as possible to min*

***POWER***

*Connect the AC adapter here. Use only the supplied Synthesis MSA AC adapter.*




***INPUT***

*Connect a 5-pin DIN cord (not supplied) from this input to the SDP-2 PWR CTL Output. This allows the SDP-RFD to power on and off with the SDP-2. If nothing is hooked up here, the unit will turn on whenever the AC adapter is supplied power. This set-up allows use of a switched outlet or continuous power. (As power consumption and heat generation are both minimal, this will not harm the SDP-RFD.)*

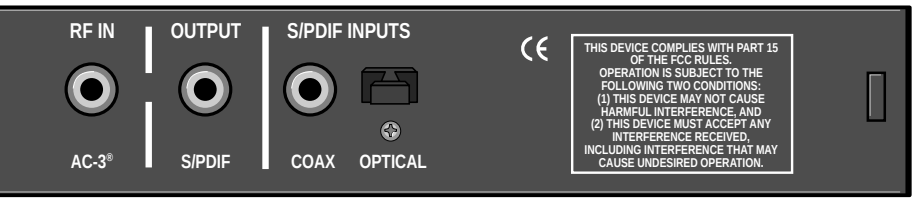
***LOOP THRU***

*Allows the hook-up and power cycling of a ditional components such as the Synthe S Series of power amplifiers. Refer to DIN configuration diagram below.*


*1 = Ground*
*2 = Ground*
*3 = Power On (cons when the DC-1 is O*
*4 = Unused*
*5 = Trigger (programma*

*laser disc player's AC-3®/RF*
*xial cable. Keep this cable as*
*nimize RF interference.*

***OUTPUT***
*Connect this S/PDIF output to SDP-2 digital input COAX1 with a 75Ω coaxial cable.*




***S/PDIF INPUTS***
*Connect this input to the laser disc player's NON-AC-3® RF digital output using the appropriate 75Ω coaxial cable.*

*Because you can switch between these inputs from the front panel, you may use both; which gives you an extra digital input.*

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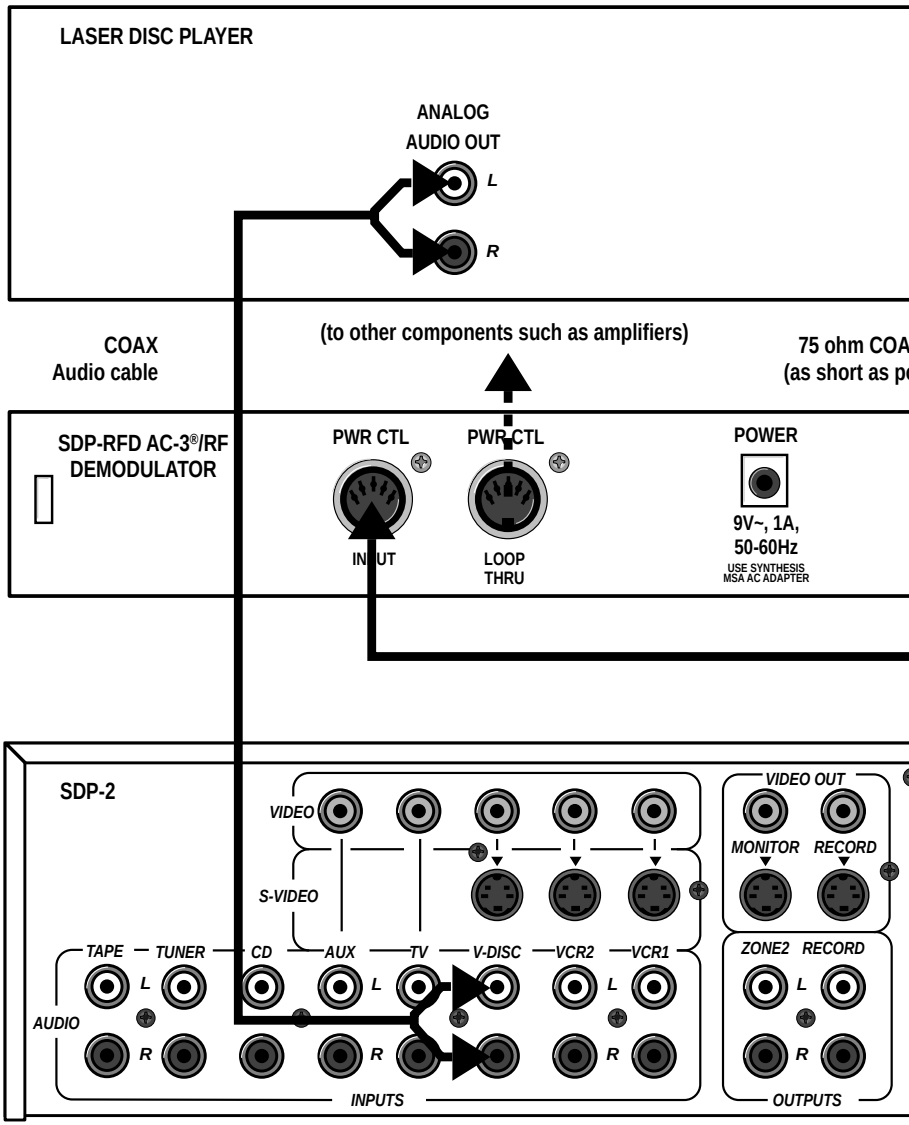
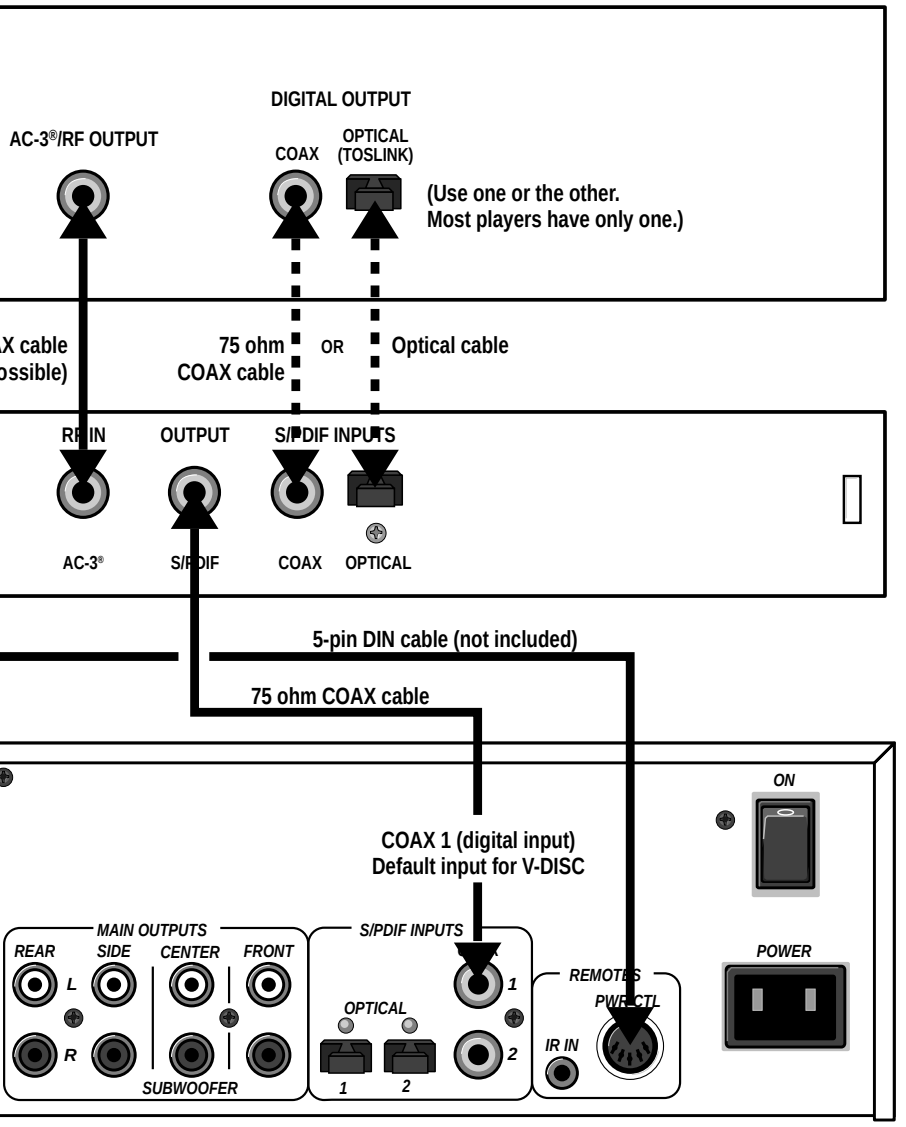

LASER DISC PLAYER
ANALOG
AUDIO OUT
L
R
COAX
Audio cable
(to other components such as amplifiers)
75 ohm COA
(as short as po
SDP-RFD AC-3®/RF
DEMODULATOR
PWR CTL
PWR CTL
POWER
IN UT
LOOP
THRU
9V~, 1A,
50-60Hz
USE SYNTHESIS
MSA AC ADAPTER
SDP-2
VIDEO
S-VIDEO
VIDEO OUT
MONITOR
RECORD
TAPE
TUNER
CD
AUX
TV
V-DISC
VCR2
VCR1
ZONE2
RECORD
AUDIO
L
R
INPUTS
OUTPUTS


DIGITAL OUTPUT
AC-3®/RF OUTPUT
COAX
OPTICAL (TOSLINK)
(Use one or the other. Most players have only one.)
75 ohm COAX cable
OR
Optical cable
RF IN
OUTPUT
S/PDIF INPUTS
AC-3®
S/PDIF
COAX
OPTICAL
5-pin DIN cable (not included)
75 ohm COAX cable
COAX 1 (digital input)
Default input for V-DISC
ON
POWER
MAIN OUTPUTS
REAR
SIDE
CENTER
FRONT
L
R
SUBWOOFER
S/PDIF INPUTS
OPTICAL
1
2
REMOTE
PWR CTL
IR IN

### *Setup*

*The SDP-RFD AC-3®/RF Demodulator chassis is barely four inches deep to allow it to be positioned adjacent to an AC-3®-capable player's RF output. This minimizes the required RF-signal cable length to reduce any RF interference. As the unit uses automated switching, and draws very little power, you can literally set it and forget it.*

*To set up the SDP-RFD:*

- *Connect a 75Ω coaxial cable between the SDP-RFD rear panel RF (AC-3®) input and the laser disc player's RF/AC-3® output. Keep this cable as short as possible to minimize RF interference.*
- *Connect a 75Ω coaxial (or optical) cable between the SDP-RFD S/PDIF input and the laser disc player's digital output.*
- *Connect a 75Ω coaxial cable between the SDP-RFD S/PDIF output and the SDP-2 COAX 1 digital input.*
- *Recommended: Connect a 5-pin DIN cord (not supplied) between the SDP-RFD PWR CTL input and the SDP-2 PWR CTL output. This allows the SDP-RFD to power on and off with the SDP-2. If this connection is not made, the SDP-RFD will turn on whenever its AC adapter is supplied power.*
- *Optional: Connect any additional components which allow remote turn on (such as Synthesis' S Series of power amplifiers) to the SDP-RFD rear panel PWR CTL (LOOP THRU) connector.*
- *Connect the AC adapter provided to the POWER jack.*

*Once the SDP-RFD is properly connected, set the front panel INPUT SELECT switch for the appropriate type of NON-AC-3®/RF digital output you are using on your laser disc player. (Most laser disc players have only one.) Set the RF TIMING switch according to the chart provided on page 2. Once you have completed the connections and setting of the front panel switches, all functions are performed automatically. LEDs on the front panel are provided to identify the operational state.*

### *Maintenance*

*The SDP-RFD requires no maintenance. However, it is good electrical practice to clean all connectors once a year. Clean the exterior surfaces of the unit with a soft, lint-free cloth, dampened with warm water.*

# 2.
# SPECIFICATIONS



***Inputs***

*2: 1AC-3®/RF via COAX; 2 Digital (1 COAX; 1 Optical)*

***Outputs***

*One (1) Digital via COAX*

***RF Timing***

*3-position toggle switch, decoder pulse settings*

***Controls and Indicators***

*LEDs indicate operational status*
*Toggle switches for: LD*
*RF Timing: Advance, Retard, Normal*
*Input Select: Optical, COAX*

***Connectors***

*Inputs: 4: 2 RCA (COAX); 1 TOSLINK (Optical); 1 5-pin DIN (PWR CTL)*
*Outputs: 2: 1 RCA (COAX); 1 5-pin DIN (PWR CTL Thru)*
*Power connector: 2.5mm, 9VAC, 1A*

***General***

*Dimensions: 17.0"X x 1.75"H x 4"D*
*Weight: 2.4 lbs net; 4.4 lbs shipping*
*Power Requirements: 120VAC, 60Hz or 230VAC, 50Hz.*
*Use JBL MSA AC Power Adapter.*

*All specifications subject to change without notice.*

Declaration of Conformity

CE

We, JBL Europe A/S
Kongevejen 194B
DK-3460 Birkerød
DENMARK

declare in own responsibility, that the product described in this owner's manual is in compliance with technical standards:

EN 55 013/6.1990

EN 55 020/6.1988

EN 55 022/6.1993

EN 60 065/1994

EN 60 555-2-3/1987/88

Steen Michaelsen
JBL Europe A/S
Birkerød. DENMARK. 2/97

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