INSTALLATION INSTRUCTIONS

IR-DC4
IR/RS232 INTERFACE MODULE

The IR-DC4 is an IR to RS232 Interface Module. Specifically, the IR-DC4 converts certain Xantech RC68 Remote Programmer IR control codes into RS232 commands that operate the Arrakis Digilink 4 Hard Disk Audio Jukebox. This allows the unique advantages of the Arrakis Jukebox to be easily integrated into Xantech IR-controlled whole house music systems. Refer to the Arrakis DC4 Users Manual for complete configuration and operational details.
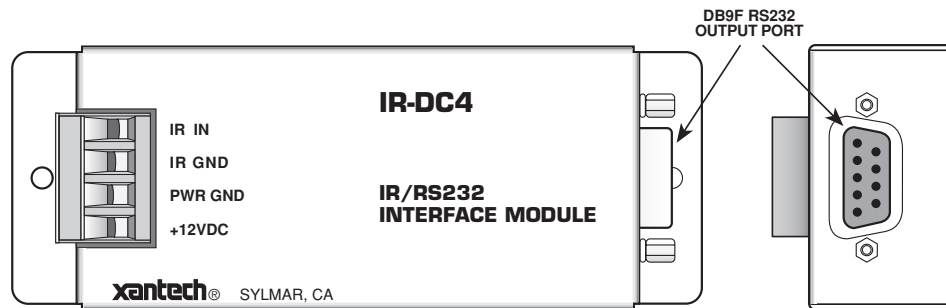
Fig. 1 *The IR-DC4*

FEATURES AND SPECIFICATIONS

• **IR Signal & Power Inputs:**

  Plug-in screw-type terminals for four-conductor connections. Handles wire sizes from 24 to 12 gauge.

• **Opto-Coupled IR IN Input and Separate IR Gnd** permits IR input to be isolated from chassis and power supply grounds, where needed.

• **RC68 Remote Programmer Code Settings for the Arrakis DC4 Control Protocols** are as follows**:**

Code Setting	Arrakis DC4
D-1	Player #1
D-2	Player #2
D-3	Player #3

• **Accepts IR control signals** from the IR outputs of any of the Xantech IR Receivers, Keypads, Connecting Blocks, Controllers, etc.

• **Output:** RS232 DB9F connector.

• **Power Requirements:** 12 VDC ± 1.5 V @ 20 mA.

• **Mounting:** Flanges, plus supplied screws, permit easy mounting to flat surfaces.

• **Dimensions:** 4-3/8" L x 1-7/8" W x 1-1/4" H (110mm x 47mm x 32mm)

RC68 PROGRAMMER

The RC68 Programmer (available separately) contains the commands necessary for IR operation of the DC4 through the IR-DC4.

• Use it to program universal learning devices such as learning remotes, the Xantech Smart Pads, Controllers, etc.

• **NOTE:** The RC68 codes operate many other Xantech models as well, therefore, **only the button descriptions that apply to the operation of the DC4 (Overlay "F") are listed on the next page**.

CAUTION: While the RC68 will operate as a separate remote control, it is highly recommended it *not* be given to the final user for the following reasons:

• Since it includes adjustable code settings, the user may inadvertently alter the installer configurations.

• Also, since the user will require IR commands from other brands of equipment to control the total system, in addition to those of the DC4, all commands should be consolidated into one learning device, for ease of use.

RC68 Button Descriptions

1. IR Emitter Lens.

2. IR command assignments for the DC4 (32 total). Refer to the Arrakis DC4 users manual for command definitions.

3. Code Group Numbers. These numbers, on the top surface of each button, apply to other Xantech products. Ignore for this application.

RC68 Code Switches - Settings

Fig. 2 RC68 with "F" Overlay

Three different IR code settings are needed to operate the 3 player zones of the DC4. To set the RC68 for the desired IR code, proceed as follows:

1. Rotate the upper switch, on the rear of the RC68 to D. Refer to **Fig. 3**.

2. Rotate the lower switch to 1, 2, or 3, as needed. See below:

D-1 for Digilink 4's Player 1

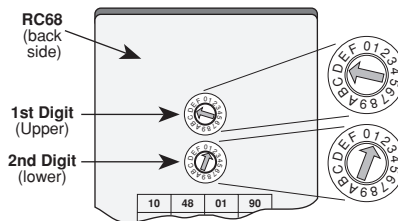D-2 for Digilink 4's Player 2

D-3 for Digilink 4's Player 3
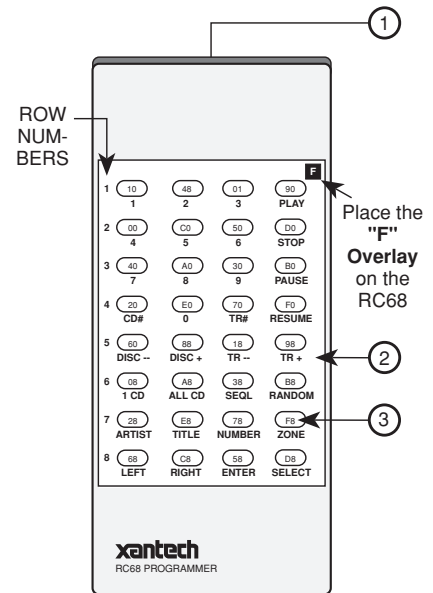

Fig. 3 Setting the RC68 Code Switches

INSTALLATION

Fig. 4 illustrates a basic IR control system in which the IR-DC4 permits direct IR control of the Digilink 4. Make connections as shown, keeping the following in mind:

1. Be sure to add a small jumper between the IR GND and PWR GND on the IR-DC4 as shown. This provides a ground return for the IR signal coming from the CB12 Connecting Block.

2. Plug the 781RG Power Supply and the power plug of the DC4 into AC wall outlets only after all other connections have been made.

3. Use the RC68 to teach a learning remote the commands for each of the DC4 players.

Fig. 5 is a typical multi-room version of a direct IR control system for the Digilink 4. In this case, Xantech Smart Pad$_2$ keypads are used as well as IR receivers. The system is configured as follows:

1. The DC4 is the audio music source in the system using an A/V receiver, along with other A/V sources.

2. A 789-44 four-output Connecting Block is used so that other system components can be IR controlled in addition to the DC4. If even more components need to be controlled, a ten-output amplified connecting block, model 791-44, could be used.

3. A high current power supply, the 782-00 (1A @ 12 VDC), provides the additional current needed for the keypads.

4. A 786-00 power supply, plugged into a switched AC outlet on the A/V receiver, is used as a source of system power ON/OFF STATUS voltage (12 VDC) for the Smart Pad$_2$s and the 780-80 IR Receiver.

5. A resistor (1k to 10k Ohm) may be added in series with the STATUS line, if desired, to adjust the brightness of the STATUS LED in the 780-80 IR Receiver. Refer to "REMOTE ROOM 3", **Fig. 5**.

6. As with the previous example, an RC68 is used to teach learning remotes (used with the IR receivers) the commands for each of the DC4 players.

7. An RC68 and the Xantech Dragon DropIR™ software are used to program the Smart Pad$_2$ keypads with the DC4 player commands and the A/V system commands.

Fig. 6 illustrates how the IR-DC4 is connected to provide IR control of a Digilink 4 via a PC running the Arrakis Music-Link Software (Win 95/98). The following should be considered when working with this configuration:
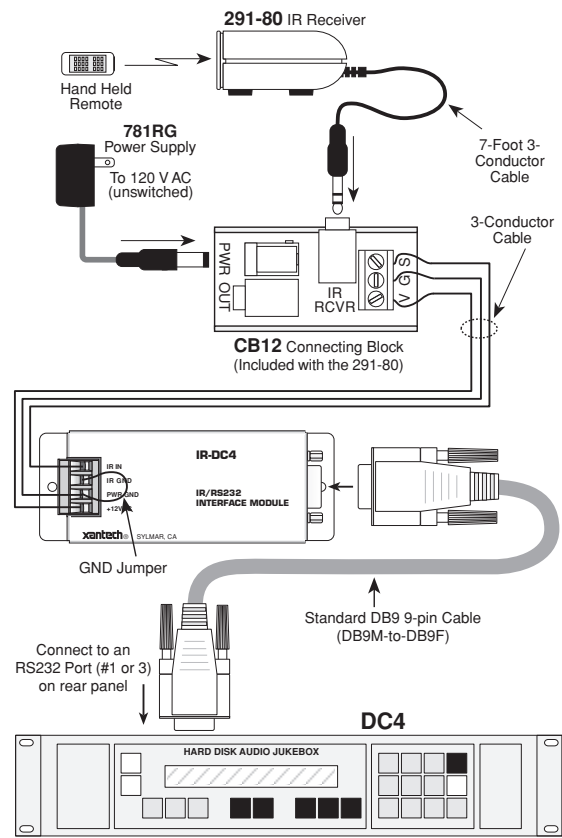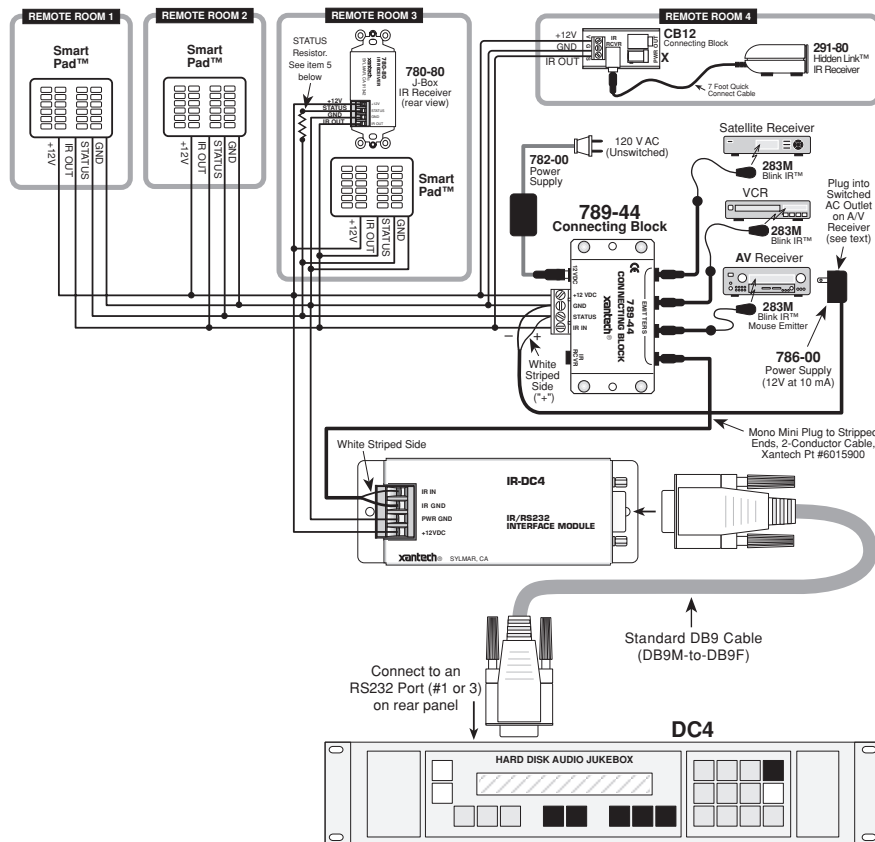

Fig. 4 *Direct IR Control of the DC4 using the IR-DC4*

1. **Fig. 6** shows a single 291-80 IR Receiver as the IR control source. Multi-room, whole house systems with many keypads and IR receivers may also be used, connected to the IR-DC4, as shown in **Fig. 5**.

2. The Arrakis Music-Link Software permits the in-room IR receivers and keypads to remotely operate the PC, and through it, the

Fig. 5 *Multi-Room Direct Control of the DC4 using the IR-DC4*

Modules & Connecting Blocks

IR-DC4   **xantech**®   3

DC4. For details of the many operational functions and configuration options for the Arrakis system, refer to the Arrakis DC4 users manual and DC4 Series Application Notes.

291-80 IR Receiver

GND Jumper

DB9 Cable

IR-DC4

IR IN
IR GND
PWR GND
+12VDC

IR/RS232 INTERFACE MODULE

xantech® SYLMAR, CA

IR RCVR

CB12 Connecting Block
(Included with the 291-80)

Null Modem
Adapter or Adapter
Cable

To 120 V AC
(unswitched)

DB9 Cable

Connect to 1st
Serial Port

Connect to 2nd
Serial Port

781RG
Power Supply

PC

Connect to
RS232 Port #4
on rear panel

DB9 Cable
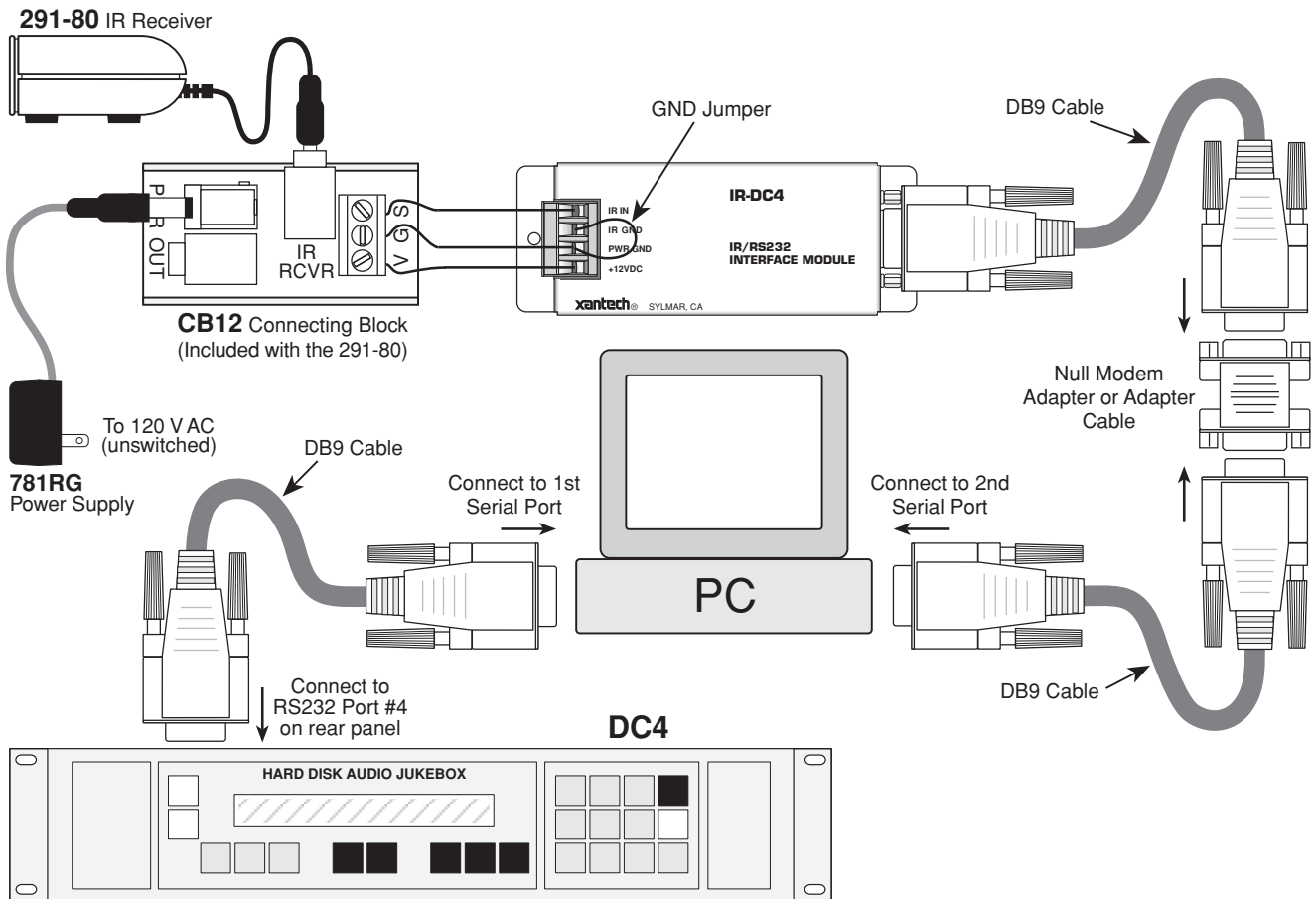
DC4

HARD DISK AUDIO JUKEBOX

Fig. 6 Control of the DC4 using an IR-DC4 and a PC with Arrakis Music-Link Software