



# NW Digital Radio

## UDRC-II™ Universal Digital Radio Controller

### Features:

- Raspberry Pi HAT Compliant
  - 40 Pin Header
- 12V to 5V 3AMP Voltage Regulator
- TI 3204 DSP Sound Chip
- PTT and COR Interface
- DE-15 Pin Connector
  - Interface to Yaesu DR1-X Repeater
- Mini DIN-6 Connector
  - HF/VHF/UHF Radio Data Port
- Open Source Image Available

### Open Source Applications

#### Supported by Others:

- ircddbgateway/Dummyrepeater
- DIREWOLF 1200/9600 AX25
- Fldigi
- ISO Image available for Download

Check the [website](#) for availability

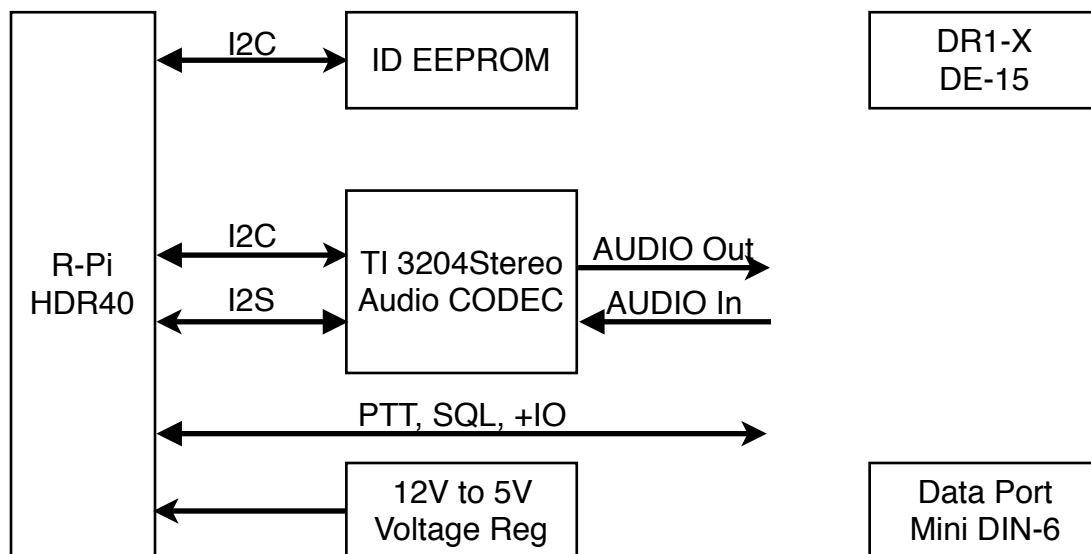
The UDRC-II™ is a Raspberry Pi HAT containing all of the necessary hardware to directly interface to a radio or repeater.

The UDRC-II™ is compliant with Raspberry Pi HAT Specification and has the ID EEPROM which directly loads the device table for the UDRC on boot up. The Ideal Diode circuit allows the Pi to be powered by either the Micro USB jack or external 12VDC.

Direct Connection to the Yaesu DR1-X Repeater is available with the DE-15 Cable and adds D-STAR Capability to your Fusion Repeater.

Alternatively the Mini DIN-6 Cable can be used to connect to the Data Port on a standard HF/VHF/UHF Radio.

Both ports may be used with a custom cable.



## HD15F Pinout

UDRC-II	REV 4					
Function	HDR 40	PI	DE15/HDR16	Direction	Level	
BASE	31	IO6	1	Output	3.3V	
PTT	32	IO12	2	Output	OC 12V	
PKSQL	29	IO5	3	Input	OC 12V	May require pull-up resistor
SQLDET	22	IO25	4	Input	3.3V	
GND			5	GND	3.3V	
TONEIN		Line Out Right	6	Output	1.5V p-p	10 uF DC Capacitor
AFIN		Line Out Left	7	Output	1.5V p-p	10 uF DC Capacitor
DISCOUT		Line In 1 Right	8	Input	1.5V p-p	10 uF DC Capacitor
AFOUT		Line In 1 Left	9	Input	1.5V p-p	10 uF DC Capacitor
GND			10	Power		
EXT1	18	IO24	11	Output	3.3V	
EXT2	15	IO22	12	Output	3.3V	
EXT3	16	IO23	13	Output	3.3V	
EXT4	13	IO27	14	Output	3.3V	
12VDC			15	Power		
GND			16	GND		Header Only

## Mini DIN-6 Pinout

UDRC-II	REV 4					
Function	HDR 40	PI	MDIN6/F	Direction	Level	
AFIN		Line Out Left	1	Output	1.5V p-p	10 uF DC Capacitor
GND			2	GND		
PTT	16	IO23	3	Output	OC 12V	
DISCOUT		Line In 1 Right	4	Input	1.5V p-p	10 uF DC Capacitor
AFOUT		Line In 1 Left	5	Input	1.5V p-p	10 uF DC Capacitor
SQL	13	IO27	6	Input	OC 12V	May require pull-up resistor

The standard cables supplied with the UDRC-II have all conductors wired straight thru.

If you want to connect to 2 radios you need to modify the cables as described on the [wiki](#).

