

# **RF900-DV 16 Channels Reference Guide**

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## **RF900DV**

# **SPECIFICATION SHEET**

**(900MHz RF-MODULE 16 CH )**

**MODEL NO: RF900DV**

*Date: 2004/6/15*

## General specification

### Item Description

1. Frequency range	
• Base Tx frequency:	902.525 ~ 907.025 MHz
• Base Rx Local OSC frequency:	933.225 ~ 937.725 MHz
• Remote Tx frequency:	922.825 ~ 927.025 MHz
• Remote Rx Local OSC frequency:	891.825 ~ 896.325 MHz
2. Number of channel & Communication system	16CH, fully duplex
3. Channel spacing	300KHz between two channels
4. RF impedance(Antenna impedance)	50 ohms
5. IF frequency 1st IF	10.70 MHz
6. Modulation system	FM
7. Operation voltage Base unit	DC 3.6V
8. Remote unit	DC 3.6V
9. Current consumption	
• Base unit	100mA (Max)
• Remote unit	100mA (Max)
10. Carrier detect time	100mS (Max)
11. PLL IC crystal frequency	11.15MHz

## TX specification

1. Transmit power	0dbm +- 3dbm
2. Frequency tolerance	< 5 KHz
3. Modulation level for voice	30KHz +- 5 KHz (Remote 1KHz 300mVrms input) (Base 1KHz 500mVrms input)
4. Voice frequency response	150Hz ~ 15KHz
5. Modulation level for data	75KHz +- 5 KHz (Remote 1KHz 2Vp-p input) (Base 1KHz 3Vp-p input)
6. Data speed	300bps ~ 100 K bps (Remote 1KHz 2Vp-p input) (Base 1KHz 3Vp-p input)
7. S/N ratio	> 35db (Handset 1KHz 300mVrms input) (Base 1KHz 500mVrms input)

8. PLL lock up time < 100 mS

**RX specification**

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|---|--------------------|
| 1. Sensitivity ( S/N=20db , Dev=30KHz)      | < -97dbm           |
| 2. S/N ratio(1KHz Dev=30KHz RF=-60dbm)      | > 35 db            |
| 3. Audio distortion (1KHz Dev=30KHz)        | < 5 %              |
| 4. Audio output level(1KHz Dev=30KHz)       | 80mV +- 20mV       |
| 5. Audio frequency response(1KHz Dev=30KHz) | 150Hz ~ 15KHz      |
| 6. 6.Data output level                      |                    |
| a. (Remote unit)                            | 3.6Vp-p +- 0.5Vp-p |
| b. (Base unit)                              | 3.6Vp-p +- 0.5Vp-p |
| 7. Data speed                               | 300bps ~ 100K bps  |
| 8. RSSI sensitivity(S/N=12db)               | < -101dbm          |
| 9. PLL lock up time                         | < 100 mS           |

**Channel frequency table**

(Unit: MHz)

CH	Base TX	Base local osc.	Remote TX	Remote local osc	D0	D1	D2	D3
1	902.525	933.225	922.525	891.825	0	0	0	0
2	902.825	933.525	922.825	892.125	1	0	0	0
3	903.125	933.825	923.125	892.425	0	1	0	0
4	903.425	934.125	923.425	892.725	1	1	0	0
5	903.725	934.425	923.725	893.025	0	0	1	0
6	904.025	934.725	924.025	893.325	1	0	1	0
7	904.325	935.025	924.325	893.625	0	1	1	0
8	904.625	935.325	924.625	893.925	1	1	1	0
9	904.925	935.625	924.925	894.225	0	0	0	1
10	905.225	935.925	925.225	894.525	1	0	0	1
11	905.525	936.225	925.525	894.825	0	1	0	1
12	905.825	936.525	925.825	895.125	1	1	0	1
13	906.125	936.825	926.125	895.425	0	0	1	1
14	906.425	937.125	926.425	895.725	1	0	1	1
15	906.725	937.425	926.725	896.025	0	1	1	1
16	907.025	937.725	927.025	896.325	1	1	1	1

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**PIN DESCRIPTION**

<b>PIN</b>	<b>Description</b>
<b>1 ALG-VCC</b>	<b>Input Power supply for analog circuit, Base DC 3.6V Remote DC 3.6V</b>
<b>2 DATA Output</b>	<b>Square wave signal output level Base 3.6Vp-p ± 0.5Vp-p Remote 3.6V± 0.5Vp-p</b>
<b>3 Busy Output</b>	<b>Busy detect output, Busy is Low , Idle is HI.</b>
<b>4 AF Output</b>	<b>Audio signal output from receiver, Output level 80mVrms.</b>
<b>5 RX-VCC Input</b>	<b>Power supply for RF-receiver circuit, Base is DC 3.6V Remote is DC 3.6V</b>
<b>6 RX-GND In/Out</b>	<b>This ground for RF-receiver circuit.</b>
<b>7 AF/DATA</b>	<b>Input For Audio signal or Data signal input pin</b>
<b>8 TX-VCC</b>	<b>Input Power supply for RF-transmitter circuit Base is DC 3.6V Remote is DC 3.6V</b>
<b>9 TX-GND</b>	<b>This ground for RF-transmitter circuit.</b>
<b>10 CH-D3 Input</b>	<b>Channel select PIN D3.</b>
<b>11 CH-D2 Input</b>	<b>Channel select PIN D2.</b>
<b>12 CH-D1 Input</b>	<b>Channel select PIN D1.</b>
<b>13 CH-D0 Input</b>	<b>Channel select PIN D0.</b>

