



DFM1200TSIM

50 mW

23 cm band transmitter

covers 1240 to 1367 MHz in 0.25 MHz steps.

The MobiComm Communications wideband 50 mW stereo audio/video transmitter covers 1240 to 1303.75 MHz in 0.25 MHz steps fully controlled by PLL and microcontroller. The Wide coverage transmitter is the ideal solution for ATV transmissions (Amateur Television) in the 1240 MHz 23 cm band. The frequency can easily be selected by means of Dip-Switches on the transmitter board, immediately after changing the setting the new frequency is selected.

General Specifications:

- **Channel setup** : by dipswitch see table page 2.
- **Frequency stepsize** : 0.25 MHz
- **Tuning circuit** : PLL chip controlled by PIC16C54C
- **Power Connector** : 2.1 mm DC Jack
- **Audio channels** : 2 @ 6 MHz and 6.5 MHz.
- **Aerial connection** : SMA (75 Ohm)
- **Video and Audio connections** : Phone
- **Mechanical dimensions** : 12 * 59 * 124 mm

Electrical Specifications:

- **Power Supply** : 13,8 ~ 15 VDC @ 500mA
- **Operating Temp.** : -10 C ... +50 C
- **Video Input** : 1Vpp (adjustable by VR)
- **Audio Input** : 0,7Vpp ~ 1,0 Vpp
- **Frequency coverage** : 1240 to 1367 MHz 23 cm ATV Band.
- **RF Output Power** : 50 mW (17 dBm) typ
: 80 mW (19 dBm) max
- **Deviation** : 3 MHz typ
: 2 - 4 MHz (Variable by VR)
- **Audio subcarriers** : 6 MHz and 6.5 MHz

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DIP-SWITCH SETTINGS 1 = ON 0 = OFF

1240.00 1 1 1 1 1 1 1 1	1254.75 0 0 1 0 0 0 1 1	1269.50 1 0 0 1 0 0 0 1	1284.25 0 1 1 1 0 0 1 0	1299.00 1 1 0 0 1 0 0 0
1240.25 0 1 1 1 1 1 1 1	1255.00 1 1 0 0 0 0 1 1	1269.75 0 0 0 1 0 0 0 1	1284.50 1 0 1 1 0 0 1 0	1299.25 0 1 0 0 1 0 0 0
1240.50 1 0 1 1 1 1 1 1	1255.25 0 1 0 0 0 0 1 1	1270.00 1 1 1 0 0 0 0 1	1284.75 0 0 1 1 0 0 1 0	1299.50 1 0 0 0 1 0 0 0
1240.75 0 0 1 1 1 1 1 1	1255.50 1 0 0 0 0 0 1 1	1270.25 0 1 1 0 0 0 0 1	1285.00 1 1 0 1 0 0 1 0	1299.75 0 0 0 0 1 0 0 0
1241.00 1 1 0 1 1 1 1 1	1255.75 0 0 0 0 0 0 1 1	1270.50 1 0 1 0 0 0 0 1	1285.25 0 1 0 1 0 0 1 0	1300.00 1 1 1 1 0 0 0 0
1241.25 0 1 0 1 1 1 1 1	1256.00 1 1 1 1 1 1 1 0	1270.75 0 0 1 0 0 0 0 1	1285.50 1 0 0 1 0 0 1 0	1300.25 0 1 1 1 0 0 0 0
1241.50 1 0 0 1 1 1 1 1 1	1256.25 0 1 1 1 1 1 1 0 1	1271.00 1 1 0 0 0 0 0 1	1285.75 0 0 0 1 0 0 1 0	1300.50 1 0 1 1 0 0 0 0
1241.75 0 0 0 1 1 1 1 1 1	1256.50 1 0 1 1 1 1 1 0 1	1271.25 0 1 0 0 0 0 0 1	1286.00 1 1 1 0 0 0 1 0	1300.75 0 0 1 1 0 0 0 0
1242.00 1 1 1 0 1 1 1 1 1	1256.75 0 0 1 1 1 1 1 0 1	1271.50 1 0 0 0 0 0 0 1	1286.25 0 1 1 0 0 0 1 0	1301.00 1 1 0 1 0 0 0 0
1242.25 0 1 1 0 1 1 1 1 1	1257.00 1 1 0 1 1 1 1 0 1	1271.75 0 0 0 0 0 0 0 1	1286.50 1 0 1 0 0 0 1 0	1301.25 0 1 0 1 0 0 0 0
1242.50 1 0 1 0 1 1 1 1 1	1257.25 0 1 0 1 1 1 1 0 1	1272.00 1 1 1 1 1 1 1 1 0	1286.75 0 0 1 0 0 0 1 0	1301.50 1 0 0 1 0 0 0 0
1242.75 0 0 1 0 1 1 1 1 1	1257.50 1 0 0 1 1 1 1 0 1	1272.25 0 1 1 1 1 1 1 1 0	1287.00 1 1 0 0 0 0 1 0	1301.75 0 0 0 1 0 0 0 0
1243.00 1 1 0 0 1 1 1 1 1	1257.75 0 0 0 1 1 1 1 0 1	1272.50 1 0 1 1 1 1 1 1 0	1287.25 0 1 0 0 0 0 1 0	1302.00 1 1 1 0 0 0 0 0
1243.25 0 1 0 0 1 1 1 1 1	1258.00 1 1 1 0 1 1 1 0 1	1272.75 0 0 1 1 1 1 1 1 0	1287.50 1 0 0 0 0 0 1 0	1302.25 0 1 1 0 0 0 0 0
1243.50 1 0 0 0 1 1 1 1 1	1258.25 0 1 1 0 1 1 1 0 1	1273.00 1 1 0 1 1 1 1 1 0	1287.75 0 0 0 0 0 0 1 0	1302.50 1 0 1 0 0 0 0 0
1243.75 0 0 0 0 1 1 1 1 1	1258.50 1 0 1 0 1 1 1 0 1	1273.25 0 1 0 1 1 1 1 1 0	1288.00 1 1 1 1 1 1 1 1 0	1302.75 0 0 1 0 0 0 0 0
1244.00 1 1 1 1 0 1 1 1 1	1258.75 0 0 1 0 1 1 1 0 1	1273.50 1 0 0 1 1 1 1 1 0	1288.25 0 1 1 1 1 1 1 1 0	1303.00 1 1 0 0 0 0 0 0
1244.25 0 1 1 1 0 1 1 1 1	1259.00 1 1 0 0 1 1 1 0 1	1273.75 0 0 0 1 1 1 1 1 0	1288.50 1 0 1 1 1 1 1 1 0	1303.25 0 1 0 0 0 0 0 0
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1244.75 0 0 1 1 0 1 1 1 1	1259.50 1 0 0 0 1 1 1 0 1	1274.25 0 1 1 0 1 1 1 1 0	1289.00 1 1 0 1 1 1 1 1 0	1303.75 0 0 0 0 0 0 0 0
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1245.25 0 1 0 1 0 1 1 1 1	1260.00 1 1 1 1 0 1 0 1 1	1274.75 0 0 1 0 1 1 1 1 0	1289.50 1 0 0 1 1 1 1 1 0	
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1245.75 0 0 0 1 0 1 1 1 1	1260.50 1 0 1 1 0 1 0 1 1	1275.25 0 1 0 0 1 1 1 1 0	1290.00 1 1 1 0 1 1 1 1 0	
1246.00 1 1 1 0 0 1 1 1 1	1260.75 0 0 1 1 0 1 0 1 1	1275.50 1 0 0 0 1 1 1 1 0	1290.25 0 1 1 0 1 1 1 1 0	
1246.25 0 1 1 0 0 1 1 1 1	1261.00 1 1 0 1 0 1 0 1 1	1275.75 0 0 0 0 1 1 1 1 0	1290.50 1 0 1 0 1 1 1 1 0	
1246.50 1 0 1 0 0 1 1 1 1	1261.25 0 1 0 1 0 1 0 1 1	1276.00 1 1 1 1 0 1 1 1 0	1290.75 0 0 1 0 1 1 1 1 0	
1246.75 0 0 1 0 0 1 1 1 1	1261.50 1 0 0 1 0 1 0 1 1	1276.25 0 1 1 1 0 1 1 1 0	1291.00 1 1 0 0 1 1 1 1 0	
1247.00 1 1 0 0 0 1 1 1 1	1261.75 0 0 0 1 0 1 0 1 1	1276.50 1 0 1 1 0 1 1 1 0	1291.25 0 1 0 0 1 1 1 1 0	
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1252.50 1 0 1 1 0 0 1 1 1	1267.25 0 1 0 0 1 0 0 1 1	1282.00 1 1 1 0 1 0 1 0 1 0	1296.75 0 0 1 1 1 1 0 0 0	
1252.75 0 0 1 1 0 0 1 1 1	1267.50 1 0 0 0 1 0 0 1 1	1282.25 0 1 1 0 1 0 1 0 1 0	1297.00 1 1 0 1 1 1 0 0 0	
1253.00 1 1 0 1 0 0 1 1 1	1267.75 0 0 0 0 1 0 0 1 1	1282.50 1 0 1 0 1 0 1 0 1 0	1297.25 0 1 0 1 1 1 0 0 0	
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Electrical Performance Video :

- **Input impedance** : 1.7 K measured at 0.5 ~ 5.0 MHz
- **Input signal level** : 2.5 Vp-p
- **Deviation** : 3 MHz. @ Fp 1300 MHz
- **Differential Gain** : -8 ~ 8 DEG @ Fp 1300 MHz
- **S/N** : 45 dB @ Fp 1300 MHz

Electrical Performance Audio:

- **Input impedance** : 1.4 K measured at 0.1 ~ 10.0 KHz
- **Input signal level** : 1 Vp-p
- **Deviation** : 70 KHz. @ 1 Vp-p
- **Distortion Factor** : 3% @ 1Vp-p
- **S/N** : 40 dB @ Fp 1300 MHz (only sync)

Electrical Performance Transmitter:

- **RF Power (typ)** : 50 mW (17 dBm) @ Fp 1300 MHz
- **Freq. stability (typ)** : < 50 ppm @ operating temp. range
- **Subcarrier (typ)** : -25 dBc @ Fp 1300 MHz
- **Subcarrier freq. (typ)** : 6.0 MHz +/- 10 KHz
: 6.6 MHz +/- 10 KHz
- **Spurious (typ)** : -50 dBc @ Fp 1300 MHz
- **Harmonics (typ)** : -35 dBc (2nd) -85 dBc (3rd) -95 dBc (others)
- **Phase Noise (typ)** : -100 dBc/Hz @ 100 KHz offset
- **Ouput impedance (typ)** : 75 Ohm

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DFM1200TSIM REV1

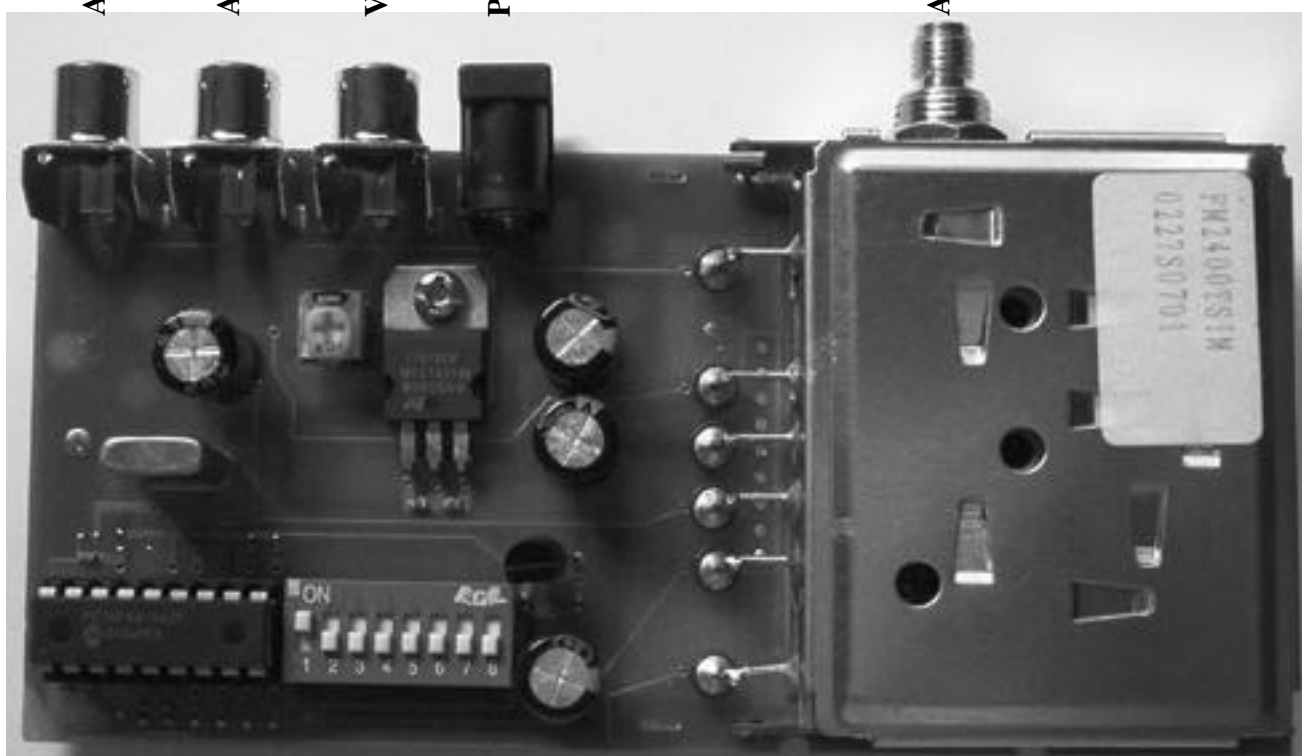
Audio In (left) @ 6.5 MHz

Audio In (right) @ 6.0 MHz

Video In

Power (13.8 Volt)

Antenna (SMA)



Freq. Setting by dipswitch*

NOTE: * Photo is showing the dipswitches set to 1303.50 MHz (10000000)

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