

National/Panasonic
Matsushita Communication Industrial Co., Ltd. AV Systems Division
600 Saedo Tuzuki-ku Yokohama Japan

Model WX-C1011
EXHIBIT No.1
AVS-00-F043

(1 of 4)

Explanation on the circuit of WX-C1011

Following description is for technical efficiency of the transmitter to be applied (in compliance with § 2.1033(8))

(1) Type or Types of emission:

Type of emission is F3.

(2) Frequency range

Frequency ranges are the followings,

TX : 469.0125MHz to 469.3875MHz , provided 16 channels at 400kHz channel separation.

RX : 464.0125MHz to 464.3875MHz , provided 16 channels at 400kHz channel separation.

(3) Range of operating power values :

The procedures of adjusting operating power are as follows,

1. To adjust to be maximum with loaded 50 ohms at CN2, JK1 , and from 20 to 25 mW with adjusting by the volume VR12

(4) Maximum power rating as defined in the applicable part of the rule is less than 120mW

Explanation on the circuit of WX-C1011

(5) The dc voltages applied to and dc currents into the several elements of the final frequency amplifying device for normal operation over the power range are :

		<u>DC voltage</u>	<u>DC current</u>
Final Stage Q101	B	3.1V	0.2mA
	C	11.9V	23.0mA
	E	2.3V	2.3mA
Drive Stage Q102	B	1.8V	0.15mA
	C	12.0V	18.0mA
	E	2.7V	-18.0mA

(6)Function of other semiconductors are :

IC3: Voltage regulator(9V)

IC4: Voltage regulator(5V)

Q106,Q9 : Power Supply mute Switch Circuit

Q102,Q103,Q104: RF Amplifier for TX

IC101 : VCO(Voltage controlled Oscillator) for TX

Q105 : Ripple Filter of Power for TX VCO

Q1 : RF Amplifier for RX

Q2 : RX first Mixing

Q4 : First IF Amplifier for RX

IC1: Second Local Oscillator, Second mixing Circuit and Demodulator Circuit

IC5: VCO(Voltage controlled Oscillator) for RX

Q8 : Ripple Filter of Power Supply for TX VCO

Q3 : First Local Amplifier for RX

IC2: PLL Circuit for TX and RX, and Reference Frequency Oscillator

Q5 : AF Amplifier

Q6,Q7,Q8:AF mute Switch Circuit

D5,D6: Protector for Static Electricity

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(7) Circuit diagram : Refer to attached schematic diagram.

(8) Operating Instructions : Refer to attached draft copy.

(9) Tune up procedure over the power range :

The procedure of tuning up the level of operating power is :

1. To adjust to be maximum with loaded 50 ohms at CN2,JK1 , and
To be limited from 20 to 25 mW with adjusting volume VR12.

(10) The circuitry and device provided for determining and stabilizing frequency are :

1. X1, C144, C145, CT1, CT2 for Reference Frequency Oscillator circuit.
2. IC2 for PLL Oscillator circuit
3. IC101, IC5 are VCO controlled IC2 PLL circuit.
circuit

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(11) The circuitry provided for suppression of spurious radiation, limiting modulation and limiting Power are as follows.

1. Device employed for suppression of spurious radiation:

C104,C105,C106,C107,C108,L101 and L102 for passive filter.

2. Device employed for suppression of limiting modulation:

IC5 2/2 in the CONT. Unit for Limiting Circuit.

IC6 4/4 in the CONT. High Pass Filter Circuit

IC6 2/4,3/4 in CONT. Low Pass Filter Circuit

3. Device employed for limiting power are not necessary for this equipment as even under the condition of adjusting operating.

Power to be maximum, it takes values within the range defined as the rules.

(12) This equipment does not employ digital modulation techniques.