APPENDIX 1

ACTIVE SEMICONDUCTIOR FUNCTIONS

Reference	Type	Function
AF Circuit		
IC1	NJM2068MD	OP amplifier
IC2	Dream T1	AF-amplifier and tone-Generator IC
IC3	SA572	Compander IC
RF Circuit		
Q303	2SC4226	RF-Buffer
Q304-307	2SC5226	RF Amplifier
Q308	2SC4738	Buffer amplifier
Q309	2SC4738	RF-Power Controller
Q310	2SA1745	RF-Switch
IC5	MB1511PFV	PLL IC
IC8	NJU6366	PLL/ 9MHz Ref. Oscillator

APPENDIX 1

APPENDIX 2

CIRCUITS AND DEVICES TO STABILIZE FREQUENCY

Operating frequency is determined and stabilized by a PLL circuit using a 9MHz crystal-Controlled reference oscillator.

APPENDIX 3

CIRCUIT TO SUPPRESS SPURIOUS RADIATION AND CONTROL MODULATION

AUDIO CIRCUIT

The audio signal produced by the microphone element is injected into the audio circuit composed of the op amp in IC2, Dream T1, then compressed via the compandor circuit composed o the op amp IC1 and compander IC, IC3, at a 2:1 ratio and is pre-emphasized by AF amp in IC2. The level of the output signal is controlled by the pot VR3 which is injected into the VCO, VCO1.

Output level of the 32.15kHz tone signal that produced by IC2 is controlled by the pot VR4 which is mixed with the audio output signal and injected into the VCO, VCO1

MODULATOR CIRCUIT

The modulator circuit is a direct FM type built around the VCO, VCO1. The modulated output from the VCO is sent to the RF final amplifier which boosts the output to a nominal level of 10mW at RF level low setting and 30mW at RF level Hi setting.

RF PRE-AMPLIFIER & FINAL AMPLIFIER

The 4 transistor amplifier stages, using 2SC4226 and 2SC5226 type transistors, culminating with a nominal transmitter output of 10mW at RF level low setting and 30mW at RF level Hi setting. The output filter comprised of L1303, L304, L1305, L306, C301, C302, C303 & C304 suppresses the output harmonics and output to the antenna.

APPENDIX 3