

ALIGNMENT PROCEDURE FOR MODEL GMR1088-2CK(UT007Z)

TRANSMITTER

STEP	MODE	CHANNEL	FREQUENCY	CONDITION	ADJUST	METHOD
1	TX	1	462.5625MHz	CONNECT RF WATTMETER TO THE ANTENNA PATTERN ON THE PCB.	RT201	KEY THE TRANSMITTER WITH BOOST PTT, AND ADJUST THE OUTPUT POWER AT $1.0W \pm 0.05W$
2	TX	1	462.5625MHz	CONNECT FREQUENCY COUNTER TO THE ANTENNA PATTERN ON THE PCB WITH AN APPROPRIATE ATTENUATOR.	RT401	KEY THE TRANSMITTER WITHOUT ANY MODULATION. ADJUST TRANSMISSION FREQUENCY TO $462.562500MHz \pm 100Hz$
3	TX	1	462.5625MHz	CONNECT MODULATION ANALYZER TO THE ANTENNA PATTERN ON THE PCB. HPF:OFF LPF:3KHz DE-EMP:OFF CONNECT OSCILLOSCOPE TO MODULATION OUTPUT OF THE MODULATION ANALYZER. CONNECT AUDIO GENERATOR TO TP3 WAVEFORM:20Hz SQUARE WAVE MAGNITUDE:1.5Vp-p	RT402	KEY THE TRANSMITTER, AND ADJUST RT402 AS THE WAVEFORM ON THE OSCILLOSCOPE COMES TO BE A CERTAIN SQUARE WAVE
4	TX	1 +CTCSS No.27	462.5625MHz	CONNECT MODULATION ANALYZER TO THE ANTENNA PATTERN ON THE PCB. HPF:OFF LPF:15KHz DE-EMP:OFF INJECT 1KHz 60mVp-p SINE WAVE TO MICROPHONE JACK FROM AUDIO GENERATOR.	RT403	KEY THE TRANSMITTER, AND ADJUST RT201 AS THE MODULATION ANALYZER INDICATES $\pm 2.2KHz \pm 0.1KHz$ DEVIATION.

RECEIVER

STEP	MODE	CHANNEL	FREQUENCY	CONDITION	ADJUST	METHOD
1	RX	1	462.5625MHz	CONNECT DC VOLTMETER TO TP2 INJECT -47dBm RF SIGNAL WITHOUT MODULATION FROM SSG TO THE ANTENNA PATTERN ON THE PCB.	L403	ADJUST L403 AS THE VOLTMETER INDICATES $1.3V \pm 0.05V$
2	RX	1	462.5625MHz	CONNECT SINAD METER TO SPEAKER JACK WITH 16Ω DUMMY LOAD. INJECT RF SIGNAL FROM SSG AS FOLLOWING CONDITION. MAGNITUDE:AS LARGE AS THE RECEIVER OBTAINS 10dB SINAD SENSITIVITY. DEVIATION: $\pm 1.5KHz$ AF FREQUENCY:1KHz	RT404	TURN RT401 FULLY C.C.W., THEN TURN SLOWLY TO C.W. AND SET IT AT THE POINT WHERE WAVEFORM APPEARS AT THE SPEAKER OUT.

FUNCTION OF SEMICONDUCTORS
GMR1088-2CK(UT007ZH)

REF No	DESCRIPTION	SPEC	UNIDEN P/N	MANUFACTURER	CIRCUIT FUNCTION
D101	DIODE	1SV308	BDAY1162001	TOSHIBA	ANTENNA SWITCHING
D102	DIODE	KDS114E-RTK	BDAY0992001	KEC	ANTENNA SWITCHING
D201	DIODE	GD LL4148	BDAY1168001	GOOD ARK	REVERSE CURRENT PROTECTION
D203	DIODE	GD LL4148	BDAY1168001	GOOD ARK	REVERSE CURRENT PROTECTION
D301	LED	LTST-S320KFKT-U	BDAY1030001	LITEON	LCD BACK LIGHT
D302	LED	LTST-S320KFKT-U	BDAY1030001	LITEON	LCD BACK LIGHT
D303	DIODE	GD LL4148	BDAY1168001	GOOD ARK	REVERSE CURRENT PROTECTION
D304	DIODE	GD LL4148	BDAY1168001	GOOD ARK	REVERSE CURRENT PROTECTION
D401	VARACTOR DIODE	MA2SV0200L	BDAY1231001	MATSUSHITA	GMRS/FRS VCO FREQUENCY CONTROL
D402	VARACTOR DIODE	HVU307	BDAY0940001	HITACHI	REFERENCE OSC. MODULATION
D421	VARACTOR DIODE	MA2SV0200L	BDAY1231001	MATSUSHITA	WX VCO FREQUENCY CONTROL
D501	ZENER DIODE	HZK11B	BDAY0432022	HITACHI	REVERSE CONNECT PROTECTION
IC301	INTEGRATED CIRCUIT	NJM2904M	BDEY0703001	JRC	RX AF BPF/VOLTAGE COMPARATOR
IC302	INTEGRATED CIRCUIT	S-24CC02A-J8T1	BDEY3664003	SEIKO	EEPROM
IC303	INTEGRATED CIRCUIT	XC61CN3002MR	BDEG4209003	TREX	VOLTAGE COMPARATOR for MPU RESET
IC401	INTEGRATED CIRCUIT	AN29160A-VF	BDEY4127003	MATSUSHITA	PLL / RX 2nd MIX,2nd IF AMP & DETECTOR /AF POWER AMPLIFIER / RX&TX CTCSS FILTER / TX AF LIMITING&ROLL-OFF FILTER / TX AF LPF for CTCSS
IC801	INTEGRATED CIRCUIT	MB89567A	---	FUJITSU	MICROPROCESSOR
Q101	TRANSISTOR	2SC5065-Y	BDBC5065124	TOSHIBA	GMRS/FRS RX RF AMPLIFIER
Q102	TRANSISTOR	2SC5065-Y	BDBC5065124	TOSHIBA	RX 1st MIXER AMPLIFIER
Q151	TRANSISTOR	2SC5065-Y	BDBC5065124	TOSHIBA	WX RX RF AMPLIFIER
Q201	TRANSISTOR	NE5510279A	BDCZ0282001	NEC	TX FINAL AMPLIFIER
Q202	TRANSISTOR	55GN01M	BDBZ1075001	SANYO	TX DRIVER AMPLIFIER
Q203	TRANSISTOR	55GN01M	BDBZ1075001	SANYO	TX PRE-AMPLIFIER
Q204	TRANSISTOR	2SA1365-T12-F	BDBA1365106	MITSUBISHI	TX POWER CONTROL
Q205	TRANSISTOR	2SC3052-1F	BDBC3052106	MITSUBISHI	TX POWER CONTROL
Q301	TRANSISTOR	2SC3052-1F	BDBC3052106	MITSUBISHI	VOLTAGE LEVEL SHIFTER for RESET
Q302	TRANSISTOR	2SC3052-1F	BDBC3052106	MITSUBISHI	VOLTAGE LEVEL SHIFTER
Q303	TRANSISTOR	2SC3052-1F	BDBC3052106	MITSUBISHI	POWER SOURCE SWITCH for LCD BACKLIGHT
Q308	TRANSISTOR	2SA1235A-1F	BDBA1235106	MITSUBISHI	DC SWITCH
Q309	TRANSISTOR	2SC3052-1F	BDBC3052106	MITSUBISHI	DC SWITCH
Q401	TRANSISTOR	2SC5635-T22-1U	BDBC5635697	MITSUBISHI	GMRS/FRS VCO BUFFER AMPLIFIER
Q402	TRANSISTOR	2SC5065-Y	BDBC5065124	TOSHIBA	VOLTAGE CONTROLLED OSCILLATOR (GMRS/FRS VCO)
Q403	TRANSISTOR	2SC3052-1F	BDBC3052106	MITSUBISHI	WX VCO RIPPLE FILTER
Q404	TRANSISTOR	2SA1235A-1F	BDBA1235106	MITSUBISHI	POWER SOURCE SWITCHING for WX VCO
Q405	TRANSISTOR	2SA1235A-1F	BDBA1235106	MITSUBISHI	TX FINAL SWITCHING
Q407	TRANSISTOR	2SC3052-1F	BDBC3052106	MITSUBISHI	POWER SOURCE SWITCHING for WX VCO
Q421	TRANSISTOR	2SC2714-Y	BDBC2714124	TOSHIBA	WX VCO BUFFER AMPLIFIER
Q422	TRANSISTOR	55GN01M	BDBZ1075001	SANYO	VOLTAGE CONTROLLED OSCILLATOR (WX VCO)
TH401	THERMISTOR	TBPS1TBPS1R101K315H5Q	BDFY0118001	TAIYO YUDEN	TEMPERATURE COMPENSATION for REFERENCE OSC.