

SL7000 SERIES HANDHELD TRANSCIVER

OPERATIONAL DESCRIPTION

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INTRODUCTION

The SL7000 Series of portable radios from Maxon, utilizes the latest technology in its design and manufacturing. Both the VHF and UHF models are PLL (Phase Lock Loop Synthesizer) / microprocessor controlled, and offer 1 or 4 / 5 watts of power with 256 channel capability. Multiple functions including Scan, CTCSS / DCS signaling and 12.5 & 25 kHz channel spacing are standard in these fully programmable wide bandwidth handheld units. The SL7402 offers many advanced features found in more expensive Land Mobile Radios.

1.SPECIFICATIONS

GENERAL

Equipment Type	Hand portable
Band	UHF/ VHF
Channel Spacings	12.5 kHz, 25 kHz programmable
RF Output Power	UHF 4 / 1 watt/ , VHF 5 / 1 watt
Modulation Type	F3E
Audio Power	500 mW (Ext with 8 ohm) 600 mW (Int with 6 ohm)
Intermediate Frequency	46.35 MHz & 450 kHz
Number of Channels	256
Frequency Source	Synthesizer
Operation Rating	Intermittent 90 : 5 : 5 (Standby: RX: TX)
Power Supply	Rechargeable , li-ion polymer Battery, 7.4 VDC

TEMPERATURE RANGE

Storage	From - 40° C to + 80° C
Operating	From - 30° C to + 60° C

CURRENT CONSUMPTION

Off	< 1 mA
Standby (Muted)	< 50 mA (Battery Save On) < 120 mA (Battery Save Off)
Unmuted, 100 % Max AF Power	< 400 mA
Transmit 4 / 5 Watt RF Power	< 2.0 A

BATTERY LIFE (5-5-90% Duty Cycle)

1550 mAh	10 Hrs @ 4 / 5 W
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FREQUENCY BANDS

	RX	TX
VHF:	136.000 - 174.000 MHz	136.000 - 174.000 MHz
UHF:	400.000 - 470.000 MHz	400.000 - 470.000 MHz

DIMENSIONS

Radio	(120mm)H x (53 mm)W x (32.5 mm)D with battery pack
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WEIGHT

Radio	290g (with 1500mAh li-ion polymer battery)
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TRANSMITTER

Carrier Power	UHF	VHF
High :	4.0W	5.0W
Low:	1.0W	1.0W

AUDIO FREQUENCY DEVIATION

Without Subaudio Tone Modulation:

25 kHz Channel Spacing	Max. ±5.0 kHz
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12.5 kHz Channel Spacing	Max. ± 2.5 kHz
With Subaudio Tone Modulation @ 10 % Peak Deviation	
25 kHz Channel Spacing	Max. ± 5.0 kHz
12.5 kHz	Max. ± 2.5 kHz
Audio Frequency Response	Within $\pm 1/-3$ dB of 6 dB octave

ADJACENT CHANNEL POWER

25 kHz	< 70 dBc
12.5 kHz	< 60 dBc
Conducted Spurious Emission.	< -36 dBm
Transmitter Audio Distortion (Without CTCSS)	< 5% @ 1 kHz
Hum & Noise:	
12.5 kHz Channel Spacing	> 40 dB (with PSOPH)
25 kHz Channel Spacing	> 40 dB (with no PSOPH)
Load Stability	No osc at ³ 10:1 VSWR all phase angles and suitable antenna
Peak Deviation @ 1 kHz (Nom. Dev +20dB)	
25 kHz Channel Spacing	Max. 5.0 kHz
12.5 kHz Channel Spacing	Max. 2.5 kHz

RECEIVER

Sensitivity (12dB Sinad)	UHF: < -117 dBm(.31 μ V) VHF: < -118 dBm(.28 μ V)
Amplitude Characteristic.	< ± 3 dB
Adjacent Channel Selectivity:	
25 kHz Channel Spacing	> 70 dB
12.5 kHz Channel Spacing	> 60 dB
Spurious Response Rejection.	70 dB
Intermodulation Response Rejection	65 dB
Temperature Stability.	0.0005% (-30°C to +60°C)
Conducted and Radiated Spurious Emission.	Per FCC and IC Rules and Regulations
AF Distortion.	< 5%
Frequency Response	6 dB/octave de-emphasized response in the range 300 Hz - 3000 Hz
RX Hum & Noise:	
25 kHz	< 40 dB
12.5 kHz	< 40 dB

RX TONE DEMODULATION CHARACTERISTICS**SUBAUDIO TONES - CTCSS**

Tone Range	67 Hz to 250.3 Hz
Non-Standard Tones	50 Hz to 260 Hz

Due to continuing research and development the company reserves the right to alter these specifications without prior notice.

2. DESCRIPTION OF UNIT

Front Panel



No.	Description	No.	Description
①	Power On/Off, Volume Control SW	⑥	Up/Down / Select Button
②	Rotary Selector	⑦	LED Indicator
③	Emergency Button	⑧	LCD Display
④	Monitor Button	⑨	Default Programmable Keys
⑤	PTT Key		

1 Emergency Key

2 Power on / off and Volume Control Switch

Turn the transceiver on by rotating power on / off and volume control switch clockwise and control the volume.

3 Whip Antenna.

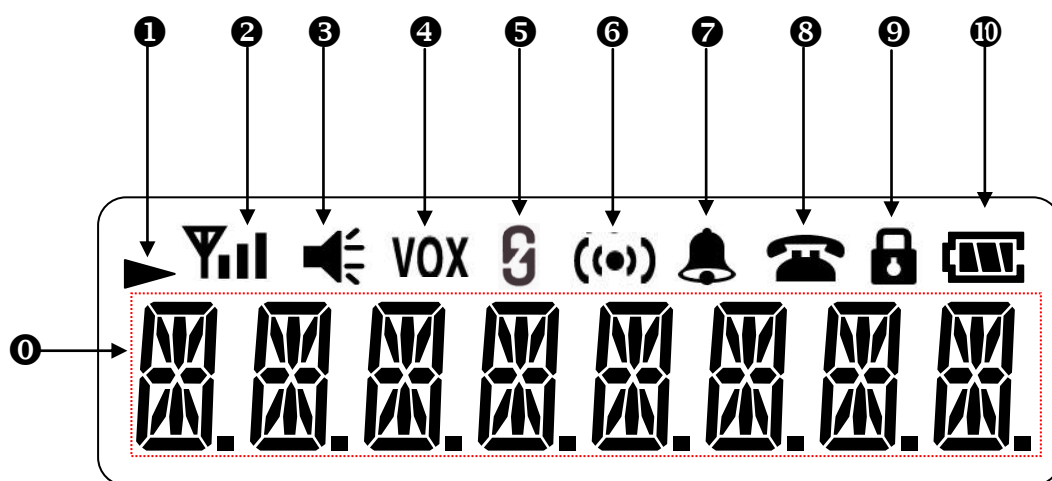
Insert the threaded end of the antenna into the connector on top of the radio. Rotate the antenna clockwise to fasten it.

4 Tx / Rx Indicate LED (3 colour's)

Red	On	Transmitting programming and cloning write
	flashing	Low battery

Green	On	sub-tone when receiving programming and cloning read
	flashing	Different sub-tone when receiving
Orange	On	Receiving, monitoring cloning

- 5 External Earphone/MIC and Programming Jack Socket
- 6 Speaker
- 7 Tx Output H/L
- 8 Function
- 9 Squelch (SQ)
- 10 Channel Select Button
Select the desired channel with pressing Up and Down button, pressing and holding down more than 1 second makes the channel moving fast. And you can choose On or Off in function mode
- 11 PTT(Push To Talk)
Button Hold down to transmit, release to receive.
- 12 Monitor Button
Press to monitor. Holding down over 2 seconds keeps monitoring function on, and press shortly again or PTT Button to stop.
- 13 Lcd display



No.	Description
①	CH, Group, Name, Message etc. Display Digit
①	Scroll Indicator
②	RSSI Indicator
③	Monitor Indicator
④	VOX On/Off Indicator
⑤	Scrambler On/Off Indicator
⑥	Compander On/Off Indicator
⑦	Bell Indicator
⑧	Call Indicator
⑨	Key Lock On/Off Indicator
⑩	Battery Gauge

3. THEORY OF OPERATION

INTRODUCTION

SL7000 is 256 channel portable FM transceiver constructed with a microprocessor controlled, temperature compensated Phase Locked Loop (PLL) frequency synthesizer. The radio features a double conversion receiver and a direct FM transmitter modulator. A special integrated circuit provides support to sub-audible signaling (CTCSS & DCS) and most of the receiving parts are switched off periodically in the power saver mode to reduce battery current drain during standby. The Block Diagram RF and Control Circuit Diagrams for SL7000 shall be used in associate with the following circuit description.

CIRCUIT DESCRIPTIONS

1) PHASE-LOCK LOOP (PLL) CIRCUIT

* REFERENCE OSCILLATOR

The reference oscillator in the Frequency Synthesizer IC401, uses the TCXO401 as a stabilized source of 15.3MHz. The reference oscillator frequency drives the divider in the Frequency synthesizer to produce a comparison frequency.

This comparison frequency is selected by decoding the first three bits of the data input from microcomputer.

* PROGRAMMABLE DIVIDER

The programmable divider in IC401 divides the VCO output . It consists of a two-modulus pre-scalar with a 7bit control register followed by a 11-bit internal programmable divider. The overall division ratio is selected by a single 19-bit word located on the serial data bus.

* PHASE COMPARATOR

The digital-type phase comparator in IC401 compares the divided VCO frequency with the comparison frequency. It generates a correction voltage that is applied to a low-pass filter consisting of R616,R624,R625, C613,C616, C619. This voltage is applied to the VCO circuit. The phase comparator also provides the lock detect signal .

* VCO CIRCUIT

The VCO circuits contains a separate RX VCO (Q651,D651,D652) and TX VCO (Q661,D661,D662,D663,D664). The oscillated signal is amplified at the buffer amplifiers (Q686,Q687)and is then applied to the T/R switch (D696,D697). Then thereceive 1st LO (Rx) signal is applied to the 1st mixer (Q831)and the transmit (Tx) signal to the amplifier circuit (PA MODULE unit; Q701). A portion of the signal from the buffer amplifier (Q686) is fed back to the PLL IC) via the doubler circuit (Q681) as the comparison signal.

2) TRANSMITTER

* MIC AMP CIRCUIT

Voice signal from the microphone are applied to microphone amplifier IC355. IC311 is configured as a low-pass filter that has a 6dB/oct response between 300Hz and 3kHz and eliminates harmonics above 3 kHz. and The pre-emphasized audio signal. The filtered AF signals from the IC311 are applied to the FM/PM switch (IC202), and pass through the low-pass filter (IC201). The filtered signals are applied to the D/A converter (IC203). The output signals from the D/A converter (IC203) are applied to the modulation circuit (D662).

* VCO AND AMPLIFIER

The VCO signal output is switched by diodes D696 and then amplified by Q701, Q711, Q721 and then fed to power amplifier Q731.

* POWER AMPLIFIER CIRCUIT

Q731 is provided with approximately 7.4 DC power source.

The power detector circuit (PA MODULE unit; D761,D771) detects the transmit power output level and converts it into DC voltage. The output voltage is at a minimum level when the antenna impedance is matched with 50 Ω and is increased when it is mismatched. The detected voltage is applied to the differential amplifier IC791, and the "PA_TUNNING_2" signal from the D/A converter controlled by the MCU is applied to the other input for reference. When antenna impedance is mismatched, the detected voltage exceeds the power setting voltage. Then the output voltage of the differential amplifier IC791 controls the input bias voltage of the drive (PA MODULE unit; Q721,Q731)

The signals from Q731 is supplied through a low-pass filter made up of L201, L202, L203 and C201-C206, C214

to antenna switch D202 then applied to Antenna Connector.

3) RECEIVER

* ANT SWITCHING CIRCUIT

Signals from antenna connector fed to the antenna switching circuit . In receive mode, D201 is turned off, which isolates the antenna from the transmitter circuit, so that the incoming signals are fed to the RF amplifier through L209.

* RF AMPLIFIER CIRCUIT

The signal, from the switching circuit, is fed to the RF amplifier Q861 through a band pass filter made up of coil, varicap diode and capacitor.

* FIRST MIXER CIRCUIT

The amplified signals are fed to Gate 2 of the first mixer Q831 through C851.

First local oscillator signal is supplied to Gate 1 of Q831 from the VCO circuit through C841 to convert the RF signal into the 46.35MHz first IF signal.

* IF CIRCUIT

The first IF signal from Q831 is fed to the matched pair crystal filter, X821, then the signal is amplified in Q821. This signal is fed to IC801, which is composed of the second mixer, limiter amplifier, quadrature detector and active filter circuit.

The second local oscillator at 45.9 MHz is produced at the PLL circuit by tripling it's reference frequency 15.3 MHz.

and is fed to the second mixer with the first IF signals to convert into 450kHz second IF signals.

The second IF signals leave through pin 3, and are fed to external ceramic filters X802 then back to IC801 (pin 5) to be amplified and detected. The detected AF signals are output from pin 9.

* Squelch (mute) CIRCUIT

The squelch circuit switches off the power amplifier when no audio signal is present. The squelch circuit consists of a 16 kHz band pass filter and a noise detector circuit.

* Speaker Audio Amplifier CIRCUIT

After signal detection and audio filtering, the low level audio is returned to the RF circuit via VR371. This is then routed to Pin 4 of IC371, (TA7386F), to provide speaker audio. IC371 is enabled by a logic high applied to Q372 which in turn enables Q371, applying power to Pin 2 of IC371.

4. ALIGNMENT PROCEDURE

Measurement Condition

The following sections describes the alignment procedure for SL7000LMR transceiver under the following reference environment conditions:

Temperature	:	25 °C (77 °C)
Relative Humidity	:	65%
Power Supply Voltage	:	7.4VDC

Required Test Equipment

The following list of equipment is recommended for use in setting up the radio properly. Please ensure the test equipment are calibrated according to the manufacturer's instructions:

EQUIPMENT	GRADE AND RANGE	EQUIPMENT	GRADE AND RANGE
DC power supply	Output voltage: 7.2 V DC Current capacity : 5 A or more	Audio generator	Frequency range : 300- 3000 Hz Measuring range : 1- 500 mV
FM deviation meter	Frequency range : DC- 800 MHz Measuring range : 0 to ± 10 kHz	Attenuator	Power attenuation : 20 or 30 dB Capacity : 10 W
Frequency counter	Frequency range : 0.1- 300 MHz Frequency accuracy : ± 1 ppm or better Sensitivity : 100 mV or better	Standard signal generator (SSG)	Frequency range : 100- 800 MHz Output level : 0.1 μ V to 32 mV (-127 to -17 dBm)
Digital multimeter	Input impedance : 10 M Ω /V DC or better	AC millivoltmeter	Measuring range : 10 mV- 10 V
RF power meter	Measuring rang : 1- 10 W Frequency range : 100- 800 MHz Impedance : 50 Ω SWR : Better than 1.2 : 1	Oscilloscope	Frequency rang : DC- 20 MHz Measuring range : 0.01- 20 V

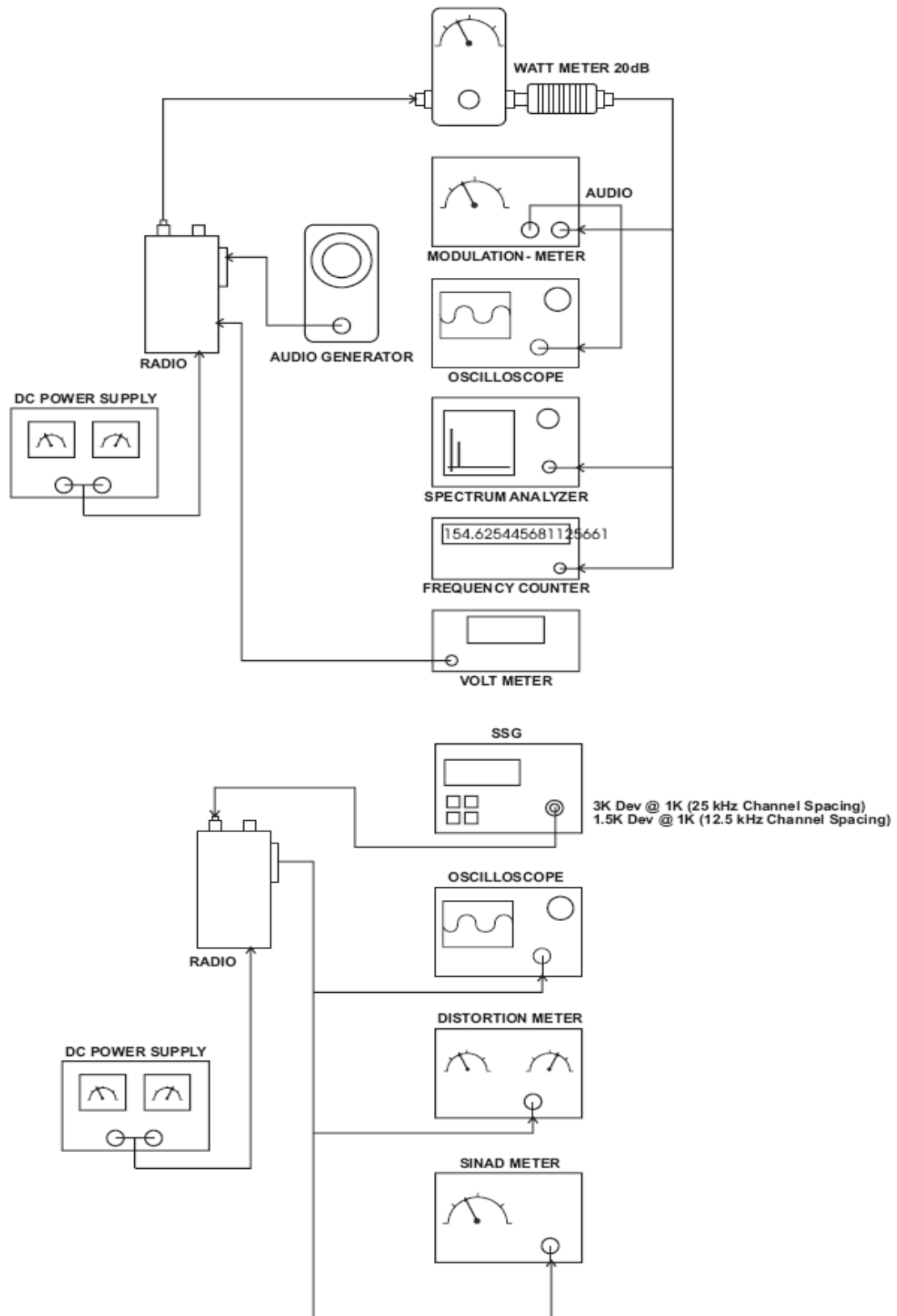
Transmitter Circuit Adjustment

- Crystal frequency
On receiving mode, check Crystal output is at 15.3MHz
- Transmitter Frequency
Connect RF Power meter to ANT1, Activate PTT to transmit on 440.025MHz. Check transmitting frequency error is within +/- 300Hz.
- Transmitter Output Power
Activate PTT to transmit on 440.025MHz, Set program tx_tun2 for 4W power output at ANT1. And Set program tx_tun2 for 1W power output at ANT1 after changing Low power output mode.
- Transmitter Sub-Audible Tone Deviation
Set radio to transmit on 440.025MHz, with CTCSS code 01 (150.4Hz) and no audio modulation. Adjust Set program tone for 0.5KHz deviation.
- Transmitter Deviation Limit
Set radio to transmit on 440.025MHz, with CTCSS code 01 (150.4Hz) and no audio modulation.
At the external microphone input, inject 1KHz tone at -20dBm. Adjust Set program mod for 2.1KHz deviation.

Receiver Circuit Adjustment

- FM Demodulator Adjustment
Set radio to receive on 440.025MHz, No CTCSS or DCS. Connect RF Signal Generator to ANT1, Set generator to 440.025MHz at -60dBm (50 Ω) output with 1KHz tone modulation at 1.5KHz Deviation.
- Receiver Squelch Adjustment
After checking the receiver sensitivity, further lower the RF Signal Generator output to 8-14dB SINAD and observe the squelch circuit operates. Adjust Set program sqlc if necessary.

Test Equipment Setup



1. S.S.G. : @ 1kHz Audio:

ATE(Auto Test)

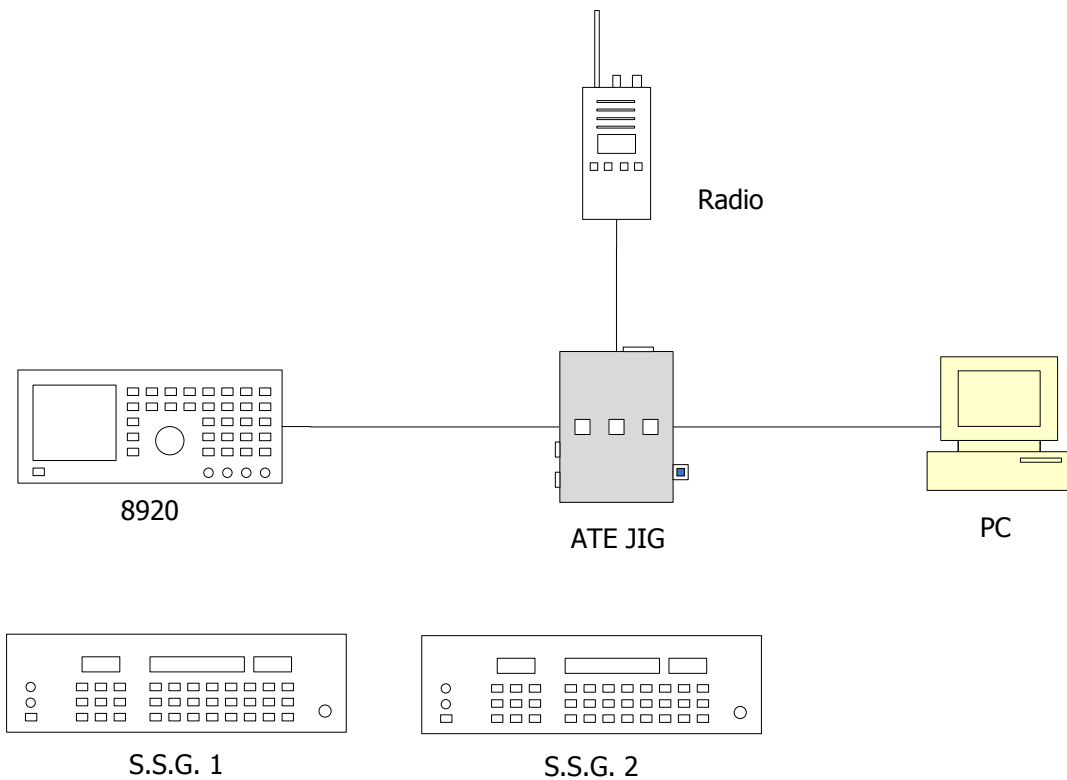
* Purpose

- ATE checks automatically whether the transceiver is content with the specification or not .It also adjusts internal values automatically(Auto Tuning) if the transceiver isn't content with the specification.

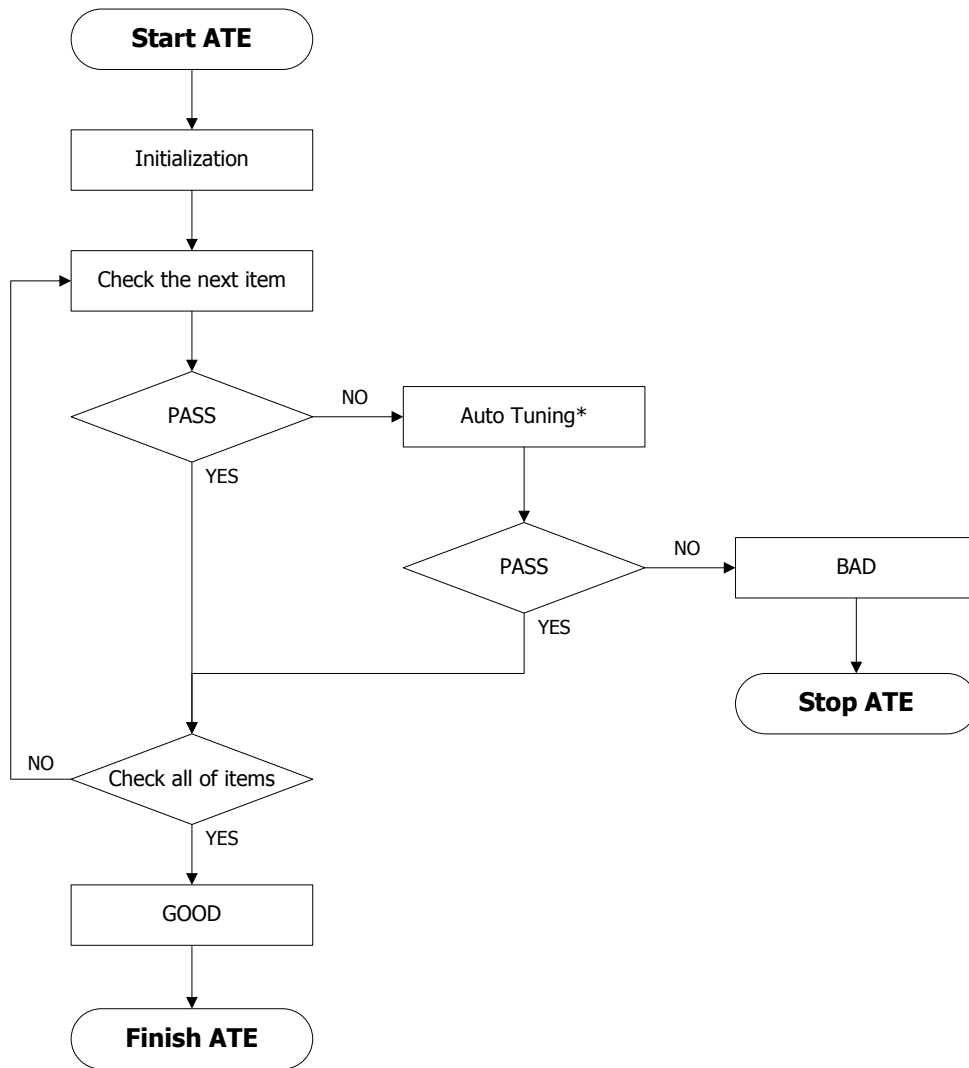
* System Requirements

- CPU: Intel Pentium2 or higher(Pentium3 or higher recommended)
- Operating System: Microsoft Windows 98, ME, 2000, XP
- Communication: Serial COM port(9pin)

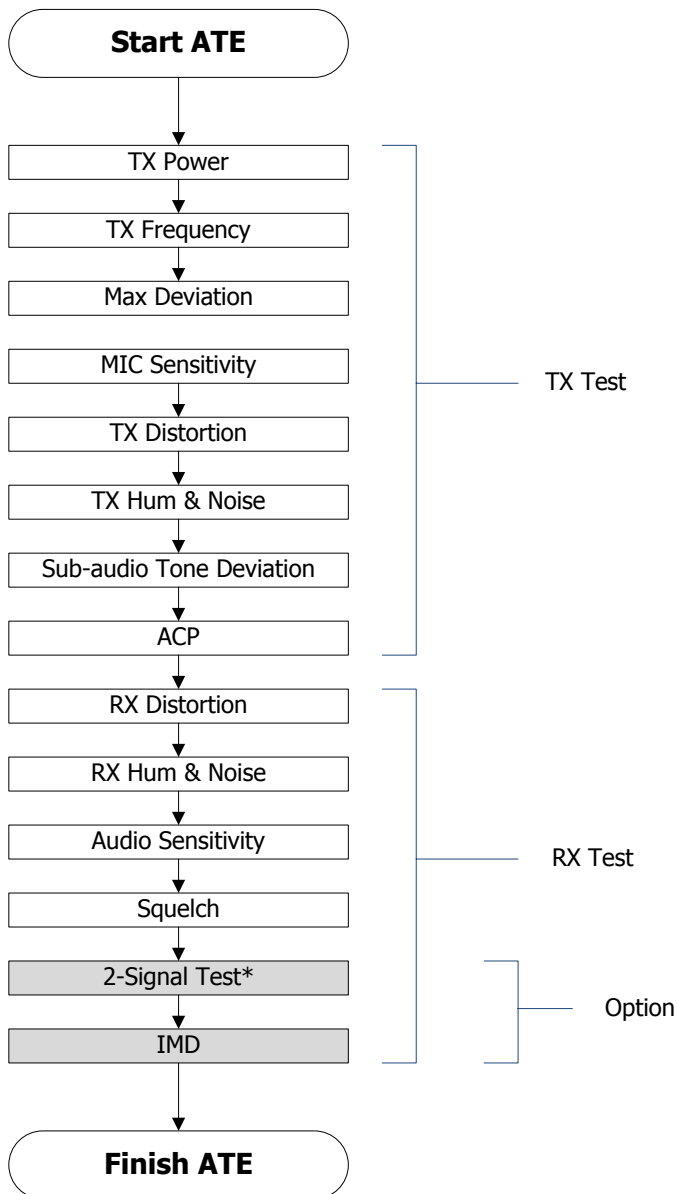
* Equipment Setup



* S.S.G 1 and S.S.G. 2 is used for testing 2-signal and IMD.

*** Test Flow Chart**

* The adjustable items: TX Power, Max Deviation, Sub-audio Tone Deviation, Squelch
The rest of items can't tune. The result will be BAD if ATE fails to check these items.

*** Test Items**

* 2-signal test items: ACL, SRA, Image Rejection, Co-channel Rejection, Blocking

*** Auto Tuning**

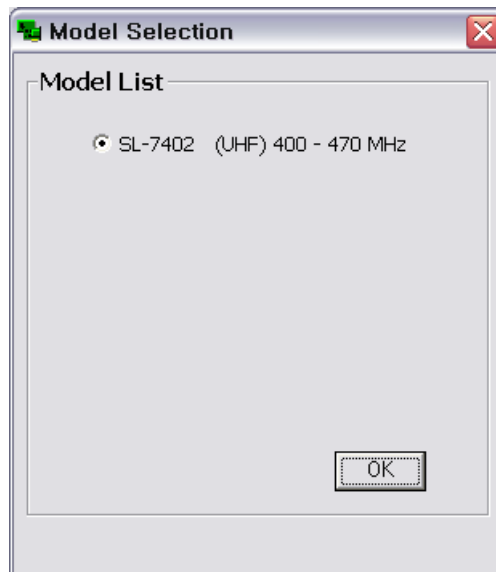
- 7000 series ATE Program has a function which adjusts internal values automatically if the transceiver isn't content with the specification. Auto tuning function divides into two parts finding the suitable values and storing the values to EEPROM. The transceiver proved to be a defective if ATE program can't adjust or find suitable values. The adjustable items are as follows. TX Power, Max Deviation, Sub-audio Tone Deviation, Squelch, etc.

*** ATE Program Usage**

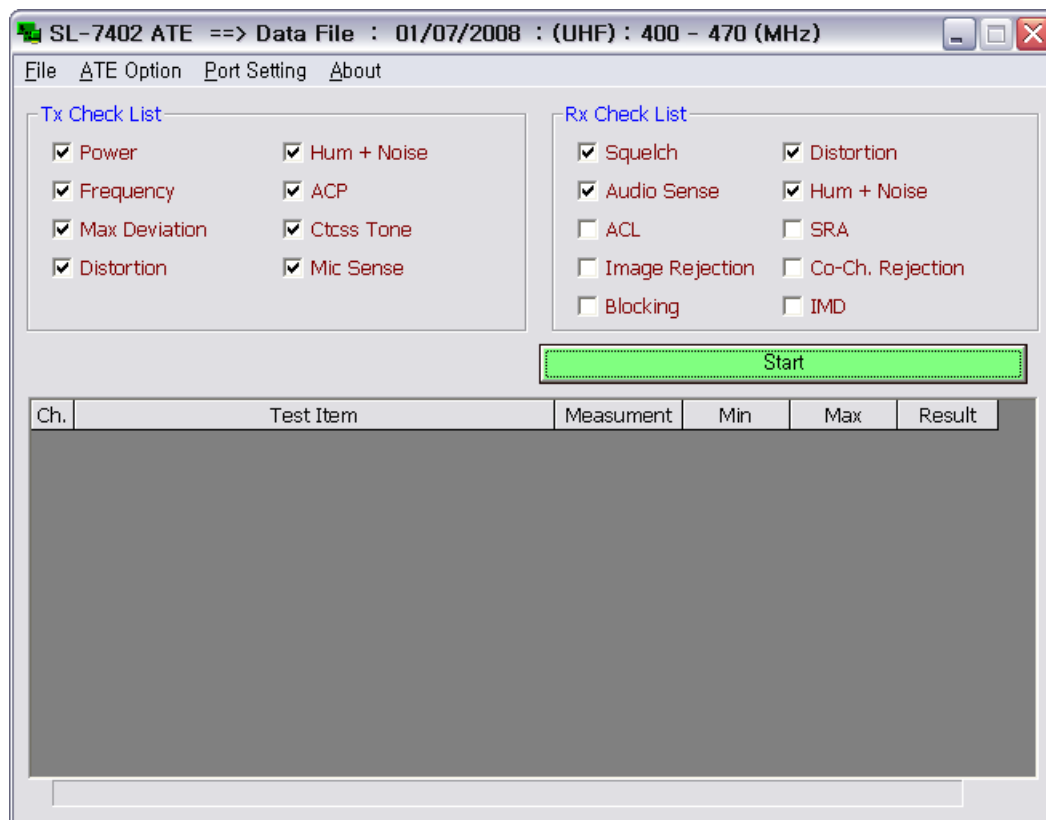
- Starting ATE Program

To run ATE program, please double click 7000 series ATE icon in

To start ATE program, Double click the SL7402_ATE icon on the desk top or click Start → Programs → SL7402_ATE → SL7402_ATE. After starting the program, the model selection window is appeared.



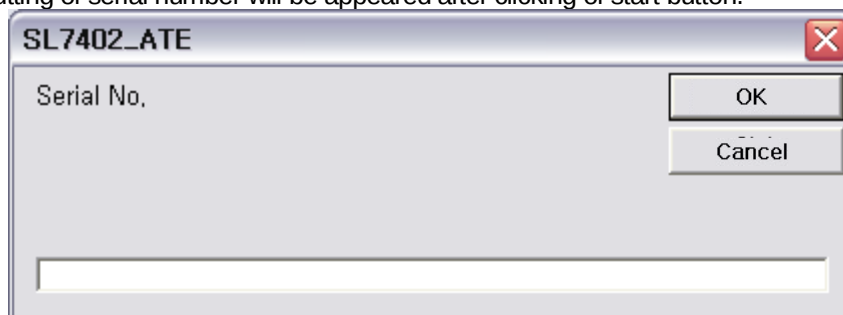
After the model selection, click the OK button. Then the main window with channel frequency and ASIC default value and specification information of corresponding the model will be appeared.



Please confirm that the audio enable button is off before transceiver on.

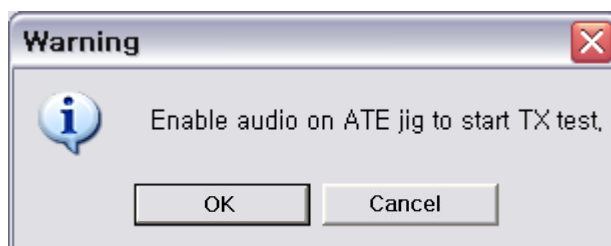
Click the start button after setting the transceiver to ATE mode and connecting the every equipment correctly. To set the transceiver to ATE mode, push and hold the PTT key and monitor button at the same time and transceiver on. At this time, the rotary selector must be 16'th channel position. When the transceiver enters the ATE mode, 'TEST' message will be displayed on the LCD for one second.

The window for inputting of serial number will be appeared after clicking of start button.

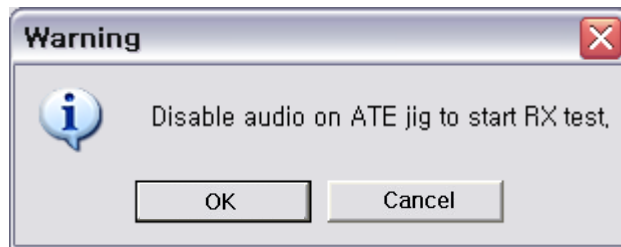


To start the auto testing, click the ok button after inputting of serial number. If the transceiver is not on or the connection is not correct, error message will be displayed.

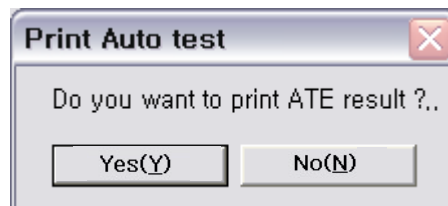
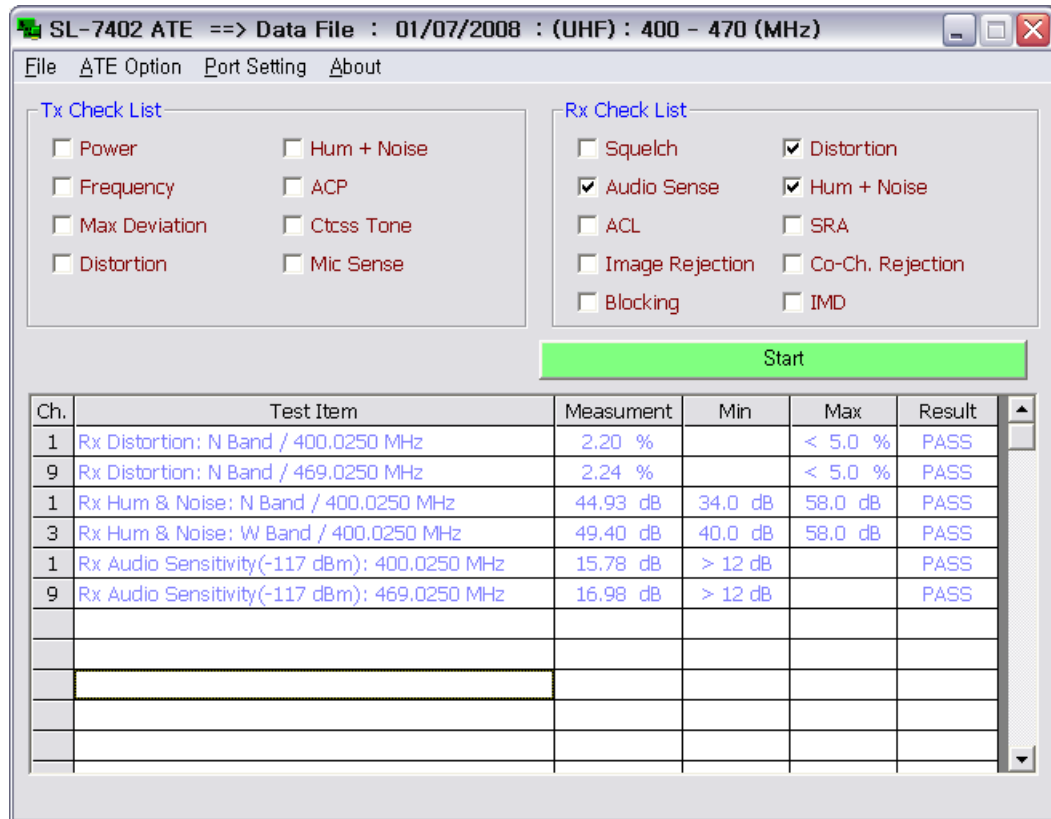
When the TX part testing is just started, the message to enable TX audio will be appeared.



When the RX part testing is just started, the message to disable TX audio will be appeared.



When all of the test items are passed, asking message of the result printing will be appeared



If the current test item is failed, the test will be stopped and asking message of the continuing of the test will be appeared.

SL-7402 ATE ==> Data File : 01/07/2008 : (UHF) : 400 - 470 (MHz)

File ATE Option Port Setting About

Tx Check List

☐ Power ☒ Hum + Noise

☒ Frequency ☒ ACP

☐ Max Deviation ☐ Ctcss Tone

☐ Distortion ☐ Mic Sense

Rx Check List

☐ Squelch ☐ Distortion

☐ Audio Sense ☐ Hum + Noise

☐ ACL ☐ SRA

☐ Image Rejection ☐ Co-Ch. Rejection

☐ Blocking ☐ IMD

Start

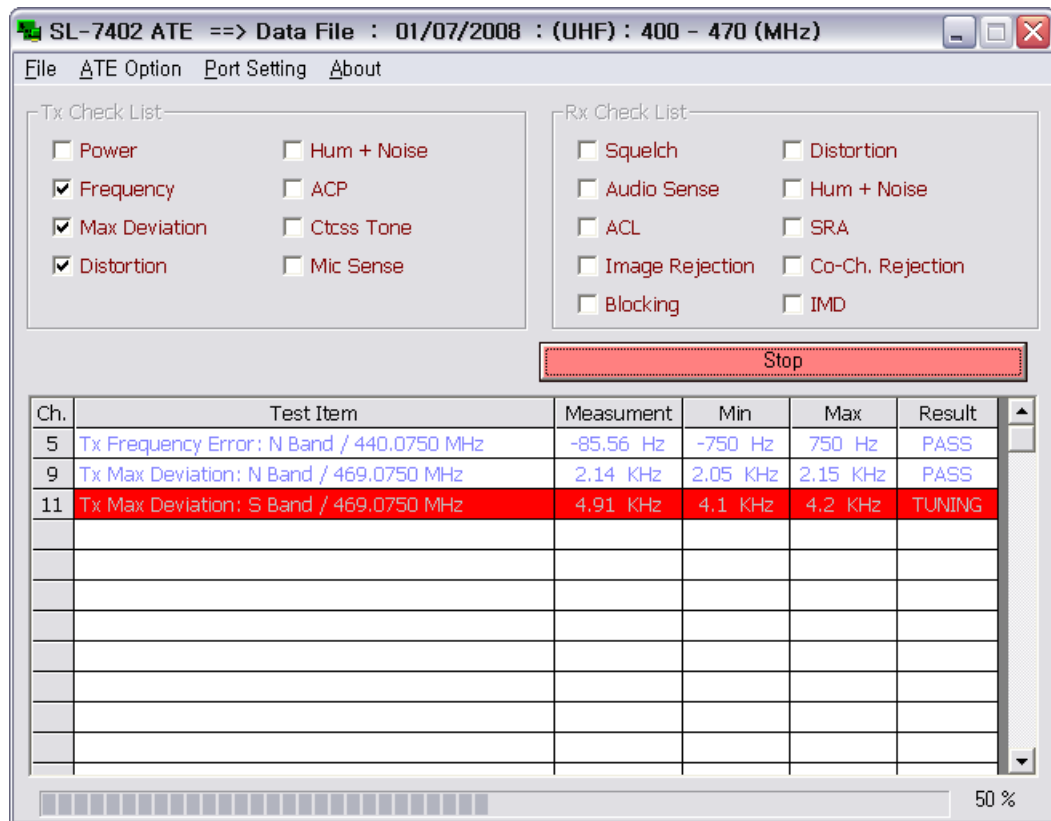
Ch.	Test Item	Measurement	Min	Max	Result
5	Tx Frequency Error: N Band / 440.0750 MHz	-109.58 Hz	-750 Hz	750 Hz	PASS
9	Tx Hum & Noise: N Band / 469.0750 MHz	37.80 dB	34.0 dB	58.0 dB	PASS
11	Tx Hum & Noise: W Band / 469.0750 MHz	42.55 dB	40.0 dB	58.0 dB	PASS
9	Tx ACP Upper Ratio: N Band / 469.0750 MHz	-63.87 dB		< -60. dB	PASS
9	Tx ACP Lower Ratio: N Band / 469.0750 MHz	-63.14 dB		< -60. dB	PASS
11	Tx ACP Upper Ratio: W Band / 469.0750 MHz	-68.53 dB		< -70. dB	FAIL

SL7402_ATE

Do you want to continue ATE ?

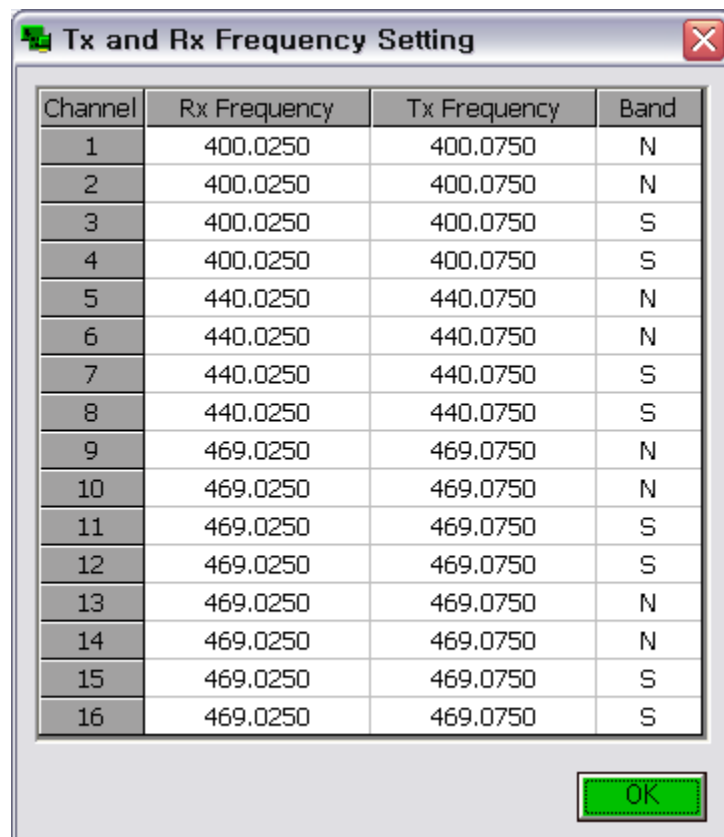
Yes(Y) No(N)

Including auto tuning test items are TX Power, Max Deviation, Sub-audio Tone Deviation, Squelch. If these items are failed then enter the auto tuning process automatically. After auto tuning process, the test will be continued. If the result after auto tuning is fail, the transceiver will be a failure.



- ATE Option

ATE program uses 16 predefined channels. To see the channels information, click ATE Option → Frequency Table on the menu bar.



To see the specification of the current model, click ATE Option → Specification on the menu bar.

Specification

TX

	Minimum	Maximum
TX Power		
High :	3,0 Watt	5,0 Watt
Low :	0,7 Watt	1,5 Watt
Max Deviation		
N Band :	2,05 KHz	2,15 KHz
S Band :	4,1 KHz	4,2 KHz
Sub-audio Tone Deviation		
N Band :	0,18 KHz	0,4 KHz
S Band :	0,36 KHz	0,7 KHz
ACP		
N Band :	< -60 dB	
S Band :	< -70 dB	
HumNoise		
N Band :	34,0 dB	58,0 dB
S Band :	40,0 dB	58,0 dB
Frequency	-750 Hz	750 Hz
Distortion	< 5 %	
MIC Sensitivity	5 mV	20 mV

RX

	Minimum	Maximum
Squelch		
Open :	-117 V	
Closed :	-117 V	
Audio Sensitivity	< -117 dBm	
Distortion	< 5 %	
HumNoise		
N Band :	34,0 dB	58,0 dB
S Band :	40,0 dB	58,0 dB

OK

- Save and Load the Result

After the test you can save the result of the test by clicking of the File → Save ATE File on the menu bar. (Normally, the result data of the test is automatically saved in 'C:\AutoTest'.)

To open the saved result data, click the File → Open ATE File on the menu bar.

- Print

To print the test result, click the File → Print.

- ATE Frequency List
SL-7402

Ch. No.	RX Frequency	TX Frequency	Ch. Space	Power	Sub-audio Tone
1	400.025	400.075	N	L	-
2	400.025	400.075	N	H	-
3	400.025	400.075	S	L	-
4	400.025	400.075	S	H	-
5	440.025	440.075	N	L	-
6	440.025	440.075	N	H	-
7	440.025	440.075	S	L	-
8	440.025	440.075	S	H	-
9	469.025	469.075	N	L	-
10	469.025	469.075	N	H	-
11	469.025	469.075	S	L	-
12	469.025	469.075	S	H	-
13	469.025	469.075	N	L	CTCSS: 151.4
14	469.025	469.075	N	L	DCS: 023
15	469.025	469.075	S	L	CTCSS: 151.4
16	469.025	469.075	S	L	DCS: 023

SL-7102

Ch. No.	RX Frequency	TX Frequency	Ch. Space	Power	Sub-audio Tone
1	136.025	136.075	N	L	-
2	136.025	136.075	N	H	-
3	136.025	136.075	S	L	-
4	136.025	136.075	S	H	-
5	155.025	155.075	N	L	-
6	155.025	155.075	N	H	-
7	155.025	155.075	S	L	-
8	440.025	155.075	S	H	-
9	173.025	173.075	N	L	-
10	173.025	173.075	N	H	-
11	173.025	173.075	S	L	-
12	173.025	173.075	S	H	-
13	173.025	173.075	N	L	CTCSS: 151.4
14	173.025	173.075	N	L	DCS: 023
15	173.025	173.075	S	L	CTCSS: 151.4
16	173.025	173.075	S	L	DCS: 023

5. CLONING

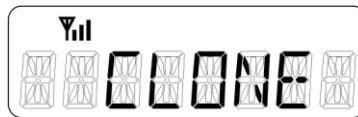
* Description

- Cloning function is to transfer and copy the transceiver information. Master is the transceiver that transfers its own information. Slave is the receiver that receives and save the master's information.

* How to use cloning function

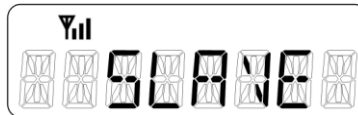
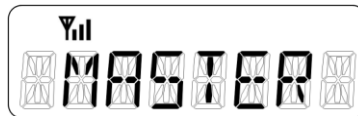
- Cloning Mode

To clone, set the master set to cloning mode. To set the radio to cloning mode, turn on the radio with push and hold the monitor button. At this time the 'CLONE' and 'RESET' message will be appeared by turns one second interval. To set the radio to cloning mode, release the monitor button while the 'CLONE' message is displayed on the LCD. In slave case, there is no need to set cloning mode.



- Cloning Start

To start the cloning, push the PTT key of the master transceiver after connecting the clone cable. At this time, the 'MASTER' message will be displayed on the master transceiver's LCD and the 'SLAVE' message will be appeared on the slave transceiver's LCD.



- The End of Cloning

When the cloning is finished, the master radio will back to cloning mode and slave radio will be reset.

6.PROGRAMMING

* File

- New 

This function is used if users want to create a new file or initialize the current file. All data is cleared and assigned the default value but the model doesn't change.

- Open 

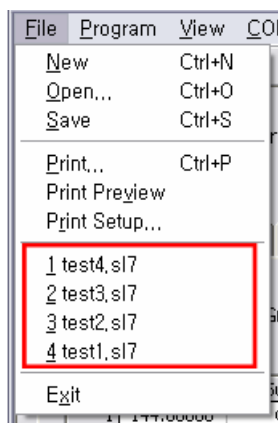
This function is used if users want to load data from a specific file.

- Save 

This function is used if users want to save the current data to a specific file. This function doesn't work if there is no channel.

- Recent File

The file is saved in recent file list if user opens a specific file. User can access his own file easily.



* Edit - Model

- Model Selection



User can select his own model. Model is generally divided by the frequency range, the presence of keypad, etc. All data will be cleared if the model is changed.

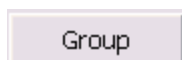
* Edit Signaling Type

- Signaling Type Selection

User can select three signaling types DTMF, 2-tone, 5-tone. First of all, user must select available signaling type in this area to apply signaling for the specific channel.

* Edit - Group

- Group Configuration



User can use up to 16 groups. To configure group, press group button is in the top right-hand corner of channel dialog. Group window will appear.

Group Setting

	Capacity	Use	Name
1	16	0	GROUP 1
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

Capacity Remains: 239 / 255

Close

'Capacity' means the total number of channels in the group. User can use channels up to this capacity number.

'Use' means the number of using channels in the group.

'Name' is the name of group.

User must assign at least one channel in each group.

* Edit - Channel

- Group Selection Group No

Select the group no. to edit channel data. The group's channel data will appear if user selects the group no.

- Frequency

To edit frequency, press enter numerical key or double click in 'RX Freq.' of 'TX Freq' cell. It is canceled if Esc key is pressed while editing. To confirm, press enter key or move the cursor to other places while editing. Error message will appear if the frequency is wrong.

- Sub-audio Tone

Press enter or double click to edit sub-audio tone. Sub-audio tone window will appear. After selecting sub-audio tone, press enter or double click the tone to confirm.

Sub-audio Tone Setting

☐ OFF
 ☒ CTCSS
 ☐ DCS
 ☐ IDCS

1	67.0	11	97.3	21	136.5	31	192.8	41	165.5
2	71.9	12	100.0	22	141.3	32	203.5	42	171.3
3	74.4	13	103.5	23	146.2	33	210.7	43	177.3
4	77.0	14	107.2	24	151.4	34	218.1	44	183.5
5	79.7	15	110.9	25	156.7	35	225.7	45	189.9
6	82.5	16	114.8	26	162.2	36	233.6	46	196.6
7	85.4	17	118.8	27	167.9	37	241.8	47	199.5
8	88.5	18	123.0	28	173.8	38	250.3	48	206.5
9	91.5	19	127.3	29	179.9	39	69.4	49	229.1
10	94.8	20	131.8	30	186.2	40	159.8	50	254.1

Confirm Cancel

- Channel Space

Press enter key or double click to change channel space(Wide or Narrow).

- TX Power

Press enter key or double click to change TX Power(High or Low).

- Scan List

Press enter key or double click to change scan list setting. Scan-ON channels are only scanned while scanning.

- Lookback

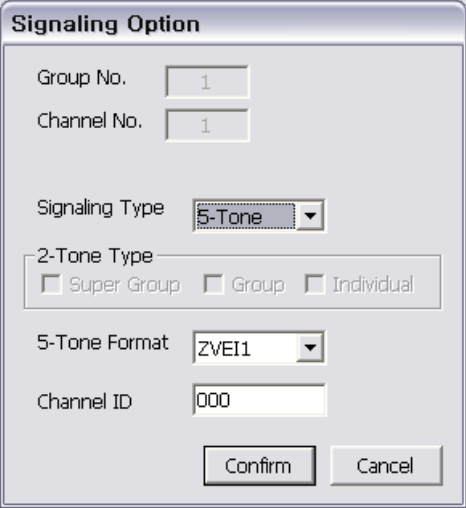
Press enter key or double click to change lookback option. Lookback-on channels only look back priority channel while scanning. Lookback function is not carried out if there is no priority channel.

- Channel Name

Press enter key or double click to edit channel name. It is canceled if Esc key is pressed while editing. To confirm, press enter key or move the cursor to other places while editing. Channel name is editable up to 8 characters.

- Signaling

Press enter key or double click to configure signaling option. Signaling option dialog will appear. Signaling types which were selected in available signaling type only appear in combo box. The related control will be activated after selecting signaling type.



The image shows a 'Signaling Option' dialog box with the following fields and controls:

- Group No.: Text box containing '1'
- Channel No.: Text box containing '1'
- Signaling Type: Dropdown menu showing '5-Tone'
- 2-Tone Type: A container with three checkboxes: 'Super Group', 'Group', and 'Individual', all of which are currently unchecked.
- 5-Tone Format: Dropdown menu showing 'ZVEI1'
- Channel ID: Text box containing '000'
- Buttons: 'Confirm' and 'Cancel' at the bottom right.

- BCLO(Busy Channel Lock Out)

Press enter key or double click to change BCLO option. Please refer to user's manual for more information about BCLO.

- Marked Idle

Press enter key or double click to change marked idle option. Please refer to user's manual for more information about marked idle.

- Scrambler

The Scrambler is a voice inversion scrambler with a carrier frequency of 3.388 kHz. Press enter key or double click to change scrambler option. Please refer to user's manual for more information.

* Edit – Start Logo & Password

- Start Logo

Start logo is editable up to 8 characters. Start logo is displayed for one second when the transceiver turns on. If start logo is empty, then all LCD segments are displayed for one second when the transceiver turns on.

- Password

Password is editable up to 4 characters. If password option is on, then the transceiver checks its password when it turns on. User can't use the transceiver if he failed to input the correct password.

* Edit – Scan

- Priority Channel

One priority channel is programmable. Select a group first and then select a channel in that group. Priority channel is displayed differently in channel dialog.

	RX Freq.	RX Sub-audio	TX Freq.	TX Sub-audio	Space	Power	SL	LB	Name	Signaling	BCLO	MIDDLE	SCR
P 1	136.02500	OFF	136.02500	OFF	W	H	ON	OFF	CH 1	None	OFF	OFF	OFF
2	137.02500	OFF	137.02500	OFF	W	H	ON	OFF	CH 2	None	OFF	OFF	OFF
3	138.02500	OFF	138.02500	OFF	W	H	ON	OFF	CH 3	None	OFF	OFF	OFF

- Scan Speed Time

Scan speed time is programmable from 50ms to 3000ms at 50ms intervals. The transceiver waits at each channel for this duration while scanning. If there is no signal within this duration, then the transceiver moves to the next channel.

- Scan Delay Time

Scan delay time is programmable from 50ms to 3000ms at 50ms intervals. The transceiver waits at a current channel for this duration after it goes to non-busy status from busy status. If the time elapsed, then the transceiver moves to the next channel.

- Lookback Time

Lookback time is programmable from 500ms to 5000ms at 500ms intervals. If lookback-on channel is busy and this duration elapsed, then the transceiver moves to priority channel to check whether it is busy or not. Lookback function is only carried out if there is priority channel.

- TX Channel

If PTT key is pressed while scanning, then the transceiver transmits according to the designed option.

'TX Channel(P)' means TX channel while priority scan is running.

'TX Channel(N)' means TX channel while normal scan is running.

TX channel option is as follows.

Scan Type	TX Channel on Scan	Busy(Scan Pause)	No Busy(Scan Continue)
Priority Scan	Priority Scan TX	Current Ch.	Priority Ch.
	Priority only TX	Priority Ch.	Priority Ch.
Normal Scan	Normal Scan TX	Current Ch.	TX Inhibition
	RX only TX	TX Inhibition	TX Inhibition

- Scan Range ☐ All Group Scan ☒ Current Group Scan

'All Group Scan' means the transceiver scans the whole channels. 'Current Group Scan' means the transceiver only scans the current group's channels.

- Power-on Scan ☐ Power-on Scan

If this option is checked, then the transceiver tries to scan when it turns on. The transceiver also tried to scan when it turns on if it turned off while scanning.

* Edit – Emergency Call

- Emergency Channel Type

'Fixed Channel' means the transceiver always moves to a specific channel and tries to call when emergency all is started. 'Current Channel' means the transceiver tries to call at current channel when emergency call is started.

- Emergency Channel

Emergency channel is programmable. The transceiver moves to this channel when emergency call is started (if emergency channel type is 'Fixed Channel'). Select a group first and then select a channel in that group. Emergency channel is displayed differently in channel dialog.

	RX Freq.	RX Sub-audio	TX Freq.	TX Sub-audio	Space	Power	SL	LB	Name	Signaling	BCLO	MIDLE	SCR
1	136.02500	OFF	136.02500	OFF	W	H	ON	OFF	CH 1	None	OFF	OFF	OFF
2	137.02500	OFF	137.02500	OFF	W	H	ON	OFF	CH 2	None	OFF	OFF	OFF
3	138.02500	OFF	138.02500	OFF	W	H	ON	OFF	CH 3	None	OFF	OFF	OFF
E 4	139.02500	OFF	139.02500	OFF	W	H	ON	OFF	CH 4	None	OFF	OFF	OFF

- Cycle

1 cycle consists of 'TX Time' and 'RX Time'. Set this value to repeat emergency call. Cycle is programmable up to 256.

- RX Time

The transceiver waits for this duration to receive signals after 'TX Time'. The transceiver goes to TX mode or finishes emergency call after this time elapsed. RX Time is programmable from 5 seconds to 60 seconds at 5 seconds intervals.

- TX Time

The transceiver keeps TX mode for this duration to send the beep sound or voice. The transceiver goes to RX mode after this time elapsed. TX Time is programmable from 5 seconds to 60 seconds at 5 seconds intervals.

- Emergency ID

Emergency ID is programmable from 3 to 16 characters and is transmitted by DTMF tone. This is used for notifying the transceiver's name (ANI).

- Emergency Effect ☐ Emergency Effect

If this option is checked, then the emergency effect is activated. There are two effects. First one is LCD blinking at one second intervals and the other is alert beep. Do not check this option if you want to operate emergency call silently.

* Edit – User Set Mode

- Item Selection

You may select items for user set mode as you wish. There is no need to select all of items. The item doesn't appear in user set mode if it was not checked.

The screenshot shows the 'User Set Mode' menu with the following settings:

- Beep: ☒ Beep, ON
- Backlight: ☒ Backlight, AUTO, Duration (s): 5
- VOX: ☒ VOX, ON, Sensitivity Lv.: 1, Delay Time (s): 1
- TOT: ☒ TOT, ON, TOT Time (s): 5, TOT Warning: OFF, Penalty Timer (s): ON, Penalty Time (s): 5
- Squelch Lv.: ☒ Squelch Lv., 5
- MIC Sense: ☒ MIC Sense, 1
- Compander: ☒ Compander, ON

- Beep ☒ Beep ON

Set beep option to control the beep sound.

- Backlight ☒ Backlight AUTO

Set backlight option to control LCD backlight. If the backlight option is set to 'AUTO', then LCD backlight is on for specific duration. This duration is applied after any key is pressed.

- VOX ☒ VOX ON

Set VOX option to use VOX function. If user's voice is over the vox sensitivity level, then the transceiver goes to TX mode automatically.

'Sensitivity Lv.' is programmable 1 to 4. Set this option to lower level if the transceiver is used in noisy place.

'Delay Time' is the duration of keeping TX mode after the voice level is less than vox sensitivity level.

- TOT ☒ TOT ON

'TOT' means Time-out Timer. The transceiver goes to RX mode if 'TOT Time' elapsed. In other words, TX is available for this duration.

'TOT Time' is programmable 5 to 300 seconds at 5 seconds intervals.

'TOT Warning' is the function beeps out a warning to notify users about the end of TX previously before 'TOT Time' elapsed.

The transceiver doesn't go to TX mode for 'Penalty Time' after it goes to RX mode by TOT.

- Squelch Lv. ☒ Squelch Lv. 5

Squelch level is programmable 1 to 9. Set this option to lower level to hear whole sounds.

- MIC Sense ☒ MIC Sense 1

MIC sense is programmable 1 to 4. Set this option to lower level to remove from some noises.

- Compander ☒ Compander ON

Compander is the function provides clear and low noise communications between transceivers.

* Edit – Common Options

- Channel Display Channel Display Group/Ch. No

Set this option to change the LCD display format about each channel data. Channel data is displayed like below in case of 'Group/Ch. No'



Channel data is displayed like below in case of 'Group/Ch. Name'. '/' is a descriptor between group and channel name.



Channel data is displayed like below in case of 'Ch. Name'. The group number is displayed for 1 second when the group is changed.



Channel data is displayed like below in case of 'Ch. No.'. The group number is displayed for 1 second when the group is changed.



- The Length of Group Name

The length of group name is applied if channel display option is 'Group/Ch. Name'. This is programmable 1 to 8. For example, if the group name is 'SHOP1' and the length of group name is set to 3, then 'SHO' is only displayed to LCD as a group name.

- Roger Beep ☐ Roger Beep

If this option is checked, then the transceiver transmits roger beep after PTT key is released.

- Clear to Talk ☒ Clear to Talk

If this option is checked and PTT key is pressed, then the transceiver beeps out after 'Clear Time' elapsed. 'Clear Time' is programmable 100ms to 2000ms at 100ms intervals.

- TX Delay ☒ TX Delay

If this option is checked, then the transceiver transmits 'Turn Off Code' after PTT key is released. This function is used for removing the squelch tail.

- PTT ID

PTT ID is editable up to 16 characters. The transceiver transmits PTT ID when it goes to TX mode. You can select DTMF or 5-tone as PTT ID type.

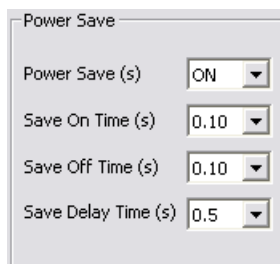
- PTT ID Position

You can select BOT or EOT as PTT ID position. The transceiver transmits PTT ID at the beginning of TX if BOT is selected. The transceiver transmits PTT ID at the end of TX if EOT is selected.

* Edit – Etc.

- Power Save

If this function is activated, the power save function will decrease the amount of using power when a current channel is no busy status and no operations are being performed. 'On Time', 'Off Time' and 'Delay Time' are programmable.



Power Save

Power Save (s) ON

Save On Time (s) 0.10

Save Off Time (s) 0.10

Save Delay Time (s) 0.5

- Beep Control

Beep sound can be programmable individually.



Beep Control

☒ Power-on Beep

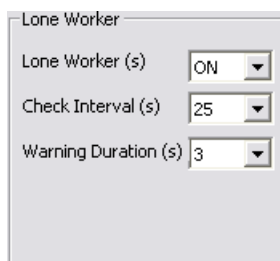
☒ Key Event Beep

☒ Warning Beep

☒ Error Beep

- Lone Worker

Lone Worker is the function checks user's condition by the key input delay. If there is no key input within 'Check Interval', then the transceiver beeps out warning for 'Warning Duration'. The transceiver goes to emergency mode if there is no response within 'Warning Duration'.



Lone Worker

Lone Worker (s) ON

Check Interval (s) 25

Warning Duration (s) 3

- Memory Channel

You can change channels quickly with this function. If 10-keypad is available, then you can set the specific channel in each numerical key. You can set memory channels in each programmable key. The transceiver moves to the stored channel immediately if the numerical key is pressed.

	Group	Channel
NUM 1	1	1
NUM 2	1	5
NUM 3		
NUM 4		
NUM 5		
NUM 6		
NUM 7		
NUM 8		
NUM 9		
NUM 0		

* Edit – Key Setting

- Rotary Selector Rotary Selector None

Select 'None' or 'Group Selection', 'Channel Selection' as rotary selector's functionality. You can't assign 'Group Selection'(Channel Selection) function to programmable key if rotary selector is already used for 'Group Selection'(Channel Selection).

Group Selection: Rotary selector indicates the current group. If you'd like to move the group, then rotate rotary selector to the group no. The transceiver will make no response if there isn't the group data in the current indicating number.

Channel Selection: Rotary selector indicates the current channel. If you'd like to move the channel, then rotate rotary selector to the channel no. The transceiver will make no response if there isn't the channel data in the current indicating number.



- Monitor Monitor ON

Select 'OFF' if you don't want to use this function.

- Keypad Keypad DTMF(Keypad Auto TX)

You can select 'DTMF', 'Direct Channel', 'Memory Channel', 'Memory Call' as keypad function. Please refer to user's manual for more information about these functions.

- Programmable Key

You can assign two functions to each programmable key, short key and long key. Long key can't be programmable if the short key's function is 'Channel Up/Down' or 'Group Up/Down'. In this case, the channel or group is moved continuously during long key event.

	Short Key	Long Key
P0	Backlight	None
P1	Scan	None
P2	Scan List Setting	None
P3	User Set Mode	None
UP	Channel Up	None
DOWN	Channel Down	None

* Edit – DTMF

- Signaling Operation Signaling Operation ANI

You can select ANI or Selcall as signaling operation. If the transceiver receives DTMF code, then pre-defined actions(code display, icon blink, etc.) are carried out.

ANI: the transceiver displays the received code. The corresponding text will be displayed if the received code is in RX Code List. The code or text disappears if there is no response during 10 seconds.

Selcall: if the received code and the current channel's ID are equal, then selcall actions(LED, ICON, Alert Tone, Squelch) are carried out.

Selcall Action	
LED	ON
ICON	ON
Alert Tone	OFF
Squelch	OFF

- TX Code List

You can store DTMF codes are used frequently in this list. If the current channel's signaling type is DTMF and TX Code Select & Enter function is activated, then these stored codes will be displayed by their text. Each code has its text and the text is editable up to 8 characters. Press delete key to remove DTMF code from the list.

TX Code List		
	Code	Text
1	11111	DTMF 1
2	22222	DTMF 2
3	33333	DTMF 3
4		
5		
6		
7		
8		

- RX Code List

According to the Signaling Operation, RX Code List is used differently. If ANI is selected and the received code is in RX Code List, then the corresponding text will be displayed. If Selcall is selected and the received code is in RX Code List, then the corresponding actions(including the text) will be carried out.

RX Code List								
	Code	Text	LED	Icon	Alert	Squelch	Stun	Revive
1	00001	DTMF 1	ON	ON	OFF	OFF	OFF	OFF
2	00002	DTMF 2	OFF	OFF	OFF	ON	OFF	OFF
3	00003	DTMF 3	OFF	OFF	ON	OFF	OFF	OFF
4								
5								
6								
7								
8								

- First Tone Delay Time

First Tone Delay Time (s) 0.50

This is programmable 0 to 1000ms at 50ms intervals. The transceiver transmits DTMF tone after this duration elapsed.

- First Tone Time

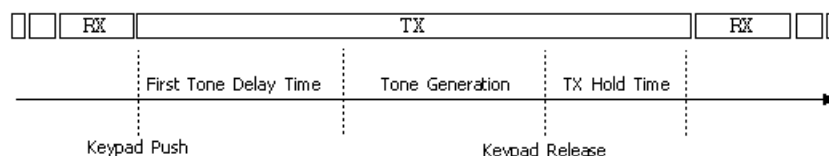
First Tone Time (s) 0.50

This is programmable 0 to 1000ms at 50ms intervals. The transceiver transmits first DTMF tone during this time. The rest of tones are transmitted during Mark Time.

- TX Hold Time

TX Hold Time (s) 1.0

This is programmable 500 to 3000ms at 100ms intervals. The transceiver keeps TX mode during this time after finishing tone generation. This time only applies in case DTMF tone is generated manually(manual dialing).



- Mark Time

Mark Time (s) 0.20

This is programmable 50 to 300ms at 10ms intervals. Each DTMF tone is generated during this time. But first tone generation time is depends on First Tone Time.

- Space Time

This is programmable 50 to 300ms at 10ms intervals. The transceiver keeps no tone for this time after generating each tone.

- Auto Reset Time

This is programmable 1 to 255 seconds at 1 second intervals. The transceiver carries out predefined actions if the signaling operation is Selcall and a valid code is received. If there is no response about the actions within this time, then the transceiver stops current actions automatically.

- Remind Time

This is programmable 1 to 255 seconds at 1 second intervals. 'CALL' displays during this time if there is no response within Auto Reset Time. This function informs user, the transceiver received a call in the absence of the user.

- Side Tone ☒ Side Tone

The transceiver sounds each DTMF tone if this option is checked.

- Transponder ☒ Transponder

The transceiver transmits the alert tone means ACK if it received a code equals to the current channel ID.

* Edit – 2-Tone

- TX Code List

You can make 2-tone code list to transmit 2-tone frequency. If the current channel's signaling type is 2-tone and TX Code Select & Enter function is activated, then these stored codes will be displayed by their text. Press 'Call' Key to generate the selected code.

Dur. x is the duration of generating Freq. x.

Gap Time is the duration of generating no tone between Freq. 1 and Freq. 2.

Text: each code has its text and the text is editable up to 8 characters.

If you want to make a single tone, then just input the frequency to Freq. 1 only.

Press delete key to remove 2-tone code from the list.

TX Code List		Tone Range(288.5 ~ 3106.0 Hz)				
	Freq. 1	Freq. 2	Dur. 1	Dur. 2	Gap Time	Text
1	300.0	400.0	0.5	0.5	0.0	2TONE 1
2	500.0	1000.0	0.5	0.5	0.0	2TONE 2
3	1250.0		0.5			2TONE 3
4						
5						
6						
7						
8						

- RX Code List

You can select more than one type from Super Group, Group and Individual for using 2-tone signaling in each channel. These 3 types can be programmable in this RX code list. The correspondent actions are activated if the received code exists in list.

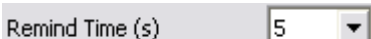
RX Code List									
	Freq. 1	Freq. 2	Dur. 1	Dur. 2	Gap Time	Text	Tolerance	Led	Icon
S	400.0	800.0	0.5	0.5	1.0	2TONE 1	0.5	ON	ON
G	1000.0	1200.0	1.0	1.0	1.0	2TONE 2	0.5	OFF	OFF
I	1400.0	1600.0	1.5	1.5	1.0	2TONE 3	0.5	OFF	OFF

- First Tone Delay Time

This is programmable 0 to 1000ms at 50ms intervals. The transceiver transmits 2-tone frequency after this duration elapsed.

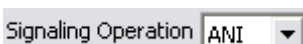
- Auto Reset Time 

This is programmable 1 to 255 seconds at 1 second intervals. The transceiver carries out predefined actions if a valid code is received. If there is no response about the actions within this time, then the transceiver stops current actions automatically.

- Remind Time 

This time is programmable 1 to 255 seconds at 1 second intervals. 'CALL' displays during this time if there is no response within Auto Reset Time. This function informs user, the transceiver received a call in the absence of the user.

* Edit – 5-Tone

- Signaling Operation 

You can select ANI or Selcall as 'Signaling Operation'. If the transceiver receives 5-tone code, then pre-defined actions(code display, icon blink, etc.) are carried out.

ANI: the transceiver displays the received code. The corresponding text will be displayed if the received code exists in RX Code List. The code or text disappears if there is no response during 10 seconds.

Selcall: if the received code and the current channel's ID are equal, then selcall actions(LED, ICON, Alert Tone, Squelch) are carried out.



Selcall Action	
LED	ON
ICON	ON
Alert Tone	OFF
Squelch	OFF

- TX Code List

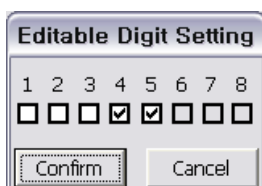
You can store 5-tone codes in this list to generate 5-tone. If the current channel's signaling type is 5-tone and TX Code Select & Enter function is activated, then these stored codes will be displayed. Press 'Call' Key to generate the selected code.

Code: each code is editable up to 8 digits.

Text: each code has its text and the text is editable up to 8 characters.

TX Code List				
	Code	Text	Editable Digit	
1	00101	5TONE 1	XXXXO	
2	00102	5TONE 2	XXXXO	
3	00201	5TONE 3	XXXXO	
4				
5				
6				
7				
8				

Editable Digit: 5-tone code is editable in transceiver(code edit mode). You can select editable codes in this dialog.



Editable Digit Setting							
1	2	3	4	5	6	7	8
☐	☐	☐	☒	☒	☐	☐	☐
Confirm				Cancel			

Press delete key to remove 5-tone code from the list.

- RX Code List

According to the signaling operation, RX Code List is used differently. If ANI is selected and the received code is in RX code List, then the corresponding text will be displayed. If Selcall is selected and the received code is in RX Code List, then the corresponding actions(including the text display) will be carried out.

RX Code List									
	Code	Text	LED	Icon	Alert	Squelch	Stun	Revive	
1	12301	5TONE 1	ON	OFF	OFF	ON	OFF	OFF	
2	12302	5TONE 2	OFF	ON	OFF	ON	OFF	OFF	
3	12303	5TONE 3	OFF	OFF	ON	ON	OFF	OFF	
4									
5									
6									
7									
8									

- First Tone Delay Time First Tone Delay Time (s) 0.50

This time is programmable 0 to 1000ms at 50ms intervals. The transceiver transmits 5-tone after this duration elapsed.

- Auto Reset Time Auto Reset Time (s) 10

This time is programmable 1 to 255 seconds at 1 second intervals. The transceiver carries out predefined actions if a valid code is received. If there is no response about the actions within this time, then the transceiver stops current actions automatically.

- Remind Time Remind Time (s) 5

This time is programmable 1 to 255 seconds at 1 second intervals. 'CALL' displays during this time if there is no response within Auto Reset Time. This function informs user, the transceiver received a call in the absence of the user.

- Code List Display Type Code List Display Type Code

You can choose between Code and Text for code display type. This applies in 5-tone code select mode.

* Edit – How to Program

- Ready for program

Make sure that COM port is set correctly.

Turn on the transceiver.

Connect the transceiver and PC with a communication cable.

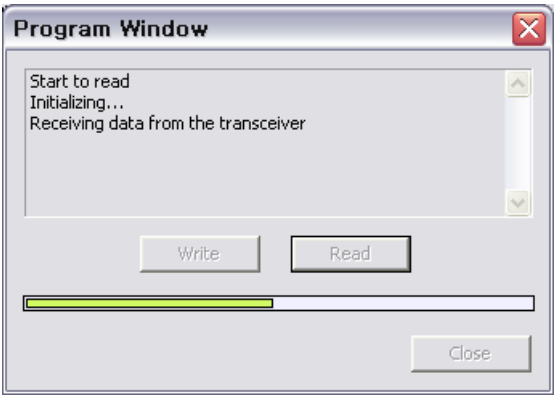
In case of writing, a group must have at least 1 channel, otherwise error message window appears.

- Program

The status messages display during program.

In proportion as transmitted data, the progress gauge display proportionally. The gauge color is determined by the current job(writing or reading). This is almost same with the transceiver's LED color.

The transceiver tries to reset after the writing is finished.



7. EXPLODED VIEW



8. PARTS LIST

8-1 SL7402

Name	Description	Qty	Reference No
SL-7402	Handheld UHF Land Mobile Radio 4W	1	
MAIN CIRCUIT MANUAL ASSY(SL-7402)	MAIN CIRCUIT MANUAL ASSY	1	
4504581(VOLUME)	TP76N17N 15F A203	1	SUB; VR371
4300772(SW ROTARY)	EC10SP16-68	1	SUB; SW171
4360465(SW TACT)	SKPT-1101VA	1	SUB; SW355
JACK PHONE	SKJS-211A	1	SUB; J355
JACK PHONE	SKJS-3516	1	SUB; J371
FILTER CERAMIC	CFWLB450KFFA-B0	1	SUB; X802
MIC CONDENSER	OB-27P44	1	SUB; MIC355
4204204(ANTENNA)	M460-SAU(SW-2573)	1	SUB;
SL-7000 LCD DISPLAY		1	
SL-7000 ZEBRA		2	
MAIN CIRCUIT SMD ASSY(SL-7402)	MAIN CIRCUIT SMD ASSY	1	
05D0005Z(RES. CHIP)	0 1/16W 5% 1005	5	SMD; C340.R239.241.617.653
05D1002Z(RES. CHIP)	10 1/16W 5% 1005	10	SMD; R126.355.377.379.400.411.661.688.690.866
05D1035Z(RES. CHIP)	10K 1/16W 5% T 1005	26	SMD; R213.231.312.325.348.401.403.404.405.406.415.418.422.502.504.506.603.604.623.696.833.842.852.867.892.893
05D1057Z(RES. CHIP)	1M 1/16W 5% T 1005	3	SMD; R125.243.320
05D1222Z(RES. CHIP)	1.2K 1/16W 5% T 1005	2	SMD; R179.816
05D1529Z(RES. CHIP)	1.5K 1/16W 5% T 1005	1	SMD; R624.
05D1826Z(RES. CHIP)	1.8K 1/16W 5% 1005	2	SMD; R625.868
05D2229Z(RES. CHIP)	2.2K 1/16W 5% T 1005	9	SMD; R104.105.185.186.187.188.505.605.616
05D2724Z(RES. CHIP)	2.7K 1/16W 5% 1005	1	SMD; R374
05D3325Z(RES. CHIP)	3.3K 1/16W 5% 1005	3	SMD; R326.375.803.
05D4795Z(RES. CHIP)	4.7 1/16W 5% 1005	1	SMD; R664
05D1013Z(RES. CHIP)	100 1/16W 5% T 1005	7	SMD; R176.687.821.834.835.841.863
05D1024Z(RES. CHIP)	1K 1/16W 5% T 1005	13	SMD; R127.172.293.294.295.296.310.354.359.373.601.806.862
05D1046Z(RES. CHIP)	100K 1/16W 1% T 1608	30	SMD; R101.102.103.128.132.133.134.135.210.211.219.222.223.224.237.251.328.329.330.334.364.402.419.420.423.522.611.686.891.894
05D1233Z(RES. CHIP)	12K 1/16W 5% 1005	6	SMD; R122.123.124.244.351.838
05D1244Z(RES. CHIP)	120K 1/16W 5% 1005	6	SMD; R240.313.322.602.613.836
05D1518Z(RES. CHIP)	150 1/16W 5% 1005	2	SMD; R810.824
05D1530Z(CHIP RESISTOR)	15K 1/16W 5% T 1005	4	SMD; R324.332.381.612
05D1541Z(RES. CHIP)	150K 1/16W 5% 1005	4	SMD; R207.666.682.809
05D1837Z(RES. CHIP)	18K 1/16W 5% T 1005	5	SMD; R217.308.337.350.807
05D1848Z(RES. CHIP)	180K 1/16W 5% 1005	3	SMD; R226.608.619
05D2218Z(RES. CHIP)	220 1/16W 5% 1005	2	SMD; R811.812
05D2230Z(RES. CHIP)	22K 1/16W 5% 1005	5	SMD; R201.228.229.805.813.
05D2241Z(RES. CHIP)	220K 1/16W 5% 1005	8	SMD; R302.316.360.362.823.851.854.869
05D2735Z(RES. CHIP)	27K 1/16W 5% 1005	2	SMD; R349.689
05D2746Z(RES. CHIP)	270K 1/16W 5% 1005	1	SMD; R521

05D3303Z(RES. CHIP)	33 1/16W 5% 1005	1	SMD; R376
05D3336Z(RES. CHIP)	33K 1/16W 5% T 1005	6	SMD; R218.307.347.358.366.417
05D3347Z(RES. CHIP)	330K 1/16W 5% 1005	1	SMD; R220
05D3918Z(RES. CHIP)	390 1/16W 5% 1005	1	SMD; R622
05D3930Z(RES. CHIP)	39K 1/16W 5% 1005	2	SMD; R202.353
05D3941Z(RES. CHIP)	390K 1/16W 5% 1005	4	SMD; R335.352.363.607
05D4706Z(RES. CHIP)	47 1/16W 5% T 1005	3	SMD; R801.804.861
05D4717Z(RES. CHIP)	470 1/16W 5% 1005	5	SMD; R221.356.357.421.822
05D4728Z(RES. CHIP)	4.7K 1/16W 5% T 1005	9	SMD; R140.214.215.225.235.331. 501.503.697
05D4739Z(RES. CHIP)	47K 1/16W 5% T 1005	16	SMD; R157.158.208.232.233.234.236.333.338.339. 252.315.341.344.606.865
05D4740Z(RES. CHIP)	470K 1/16W 5% T 1005	7	SMD; R317.319.321.323.346.618.870
05D5109Z(RES. CHIP)	51 1/16W 5% 1005	1	SMD; R410
05D5615Z(RES. CHIP)	560 1/16W 5% T 1005	1	SMD; R832
05D5626Z(RES. CHIP)	5.6K 1/16W 5% 1005	1	SMD; R416
05D5637Z(RES. CHIP)	56K 1/16W 5% 1005	3	SMD; R227.802.808
05D6810Z(RES. CHIP)	680 1/16W 5% 1005	2	SMD; R178.621
05D6821Z(RES. CHIP)	6.8K 1/16W 5% 1005	4	SMD; R651.652.662.663
05D6832Z(RES. CHIP)	68K 1/16W 5% T 1005	9	SMD; R203.204.205.206.209.238. 336.365.372
05D6843Z(RES. CHIP)	680K 1/16W 5% 1005	2	SMD; R318.817
05D8221Z(RES. CHIP)	8.2K 1/16W 5% 1005	3	SMD; R327.342.343
05D8232Z(RES. CHIP)	82K 1/16W 5% 1005	3	SMD; R309.837.864
	91K 1/16W 5% 1005	3	SMD; R304.305.306.
05B0005Z(RES. CHIP)	0 1/16W 5% 1608	1	SMD; R825
05B1013Z(RES. CHIP)	100 1/16W 5% T 1608	1	SMD; R378
POTENTIONMETER	10K MVR21 HXBR 103	1	SMD; VR416
1305258Y(CAP. CERAMIC CHIP)	0.5PF GRM36COG0R5C50V	1	SMD; C663
1307076Y(CAP. CERAMIC CHIP)	0.75PF GRM36COG0R75C50V	1	SMD; C673
1311266Y(CAP. CERAMIC CHIP)	1PF GRM36COG010C50V	3	SMD; C650.662.854
1311277Y(CAP. CERAMIC CHIP)	10PF GRM36COG100D50V	4	SMD; C417.668.690.692
1311299Y(CAP. CERAMIC CHIP)	100PF GRM36COG101J50V	4	SMD; C336.362.411.821
130B121Y(CAP. CERAMIC CHIP)	0.001UF GRM36X7R102K50V	67	SMD; C173,82.200,1,12,14,31,58.311, 41,55,56,61,65,70.372-76.382,87, 89,90.405,6,10.502,3,25,27.601,2, 3,6,44,65,71,83.686-89.693,94,96. 803,12,18,22,23,32,35,37,39,40,45, 57,58,61,63,65,67,69,86,87.924
130B165Y(CAP. CERAMIC CHIP)	0.01UF GRM36X7R103K16V	12	SMD; C206.213.419.420.422.501.504. 508.523.604.648.833
130B198Y(CAP. CERAMIC CHIP)	0.1UF GRM36Y5V104Z16V	43	SMD; C121.122.128.171.181.192.207.208. 217.219.220.221.232.235.256.257. 309.313.316.325.326.327.328. 335.353.358.363.377.388.408.409. 416.505.507.521.615.618.626.801. 804.807. 814.864
130B363Y(CAP. CERAMIC CHIP)	0.1UF GRM36X5R104K10V	3	SMD; C808.809.811
1311288Y(CAP. CERAMIC CHIP)	11PF GRM36COG110J 50V	1	SMD; C853
1312564Y(CAP. CERAMIC CHIP)	12PF GRM36COG120J50V	6	SMD; C641.643.645.647.661.664
1312575Y(CAP. CERAMIC CHIP)	120PF GRM36COG121J50V	1	SMD; C203
130B143Y(CAP. CERAMIC CHIP)	0.0015UF GRM36X7R152K50V	1	SMD; C352
1318517Y(CAP. CERAMIC CHIP)	18PF GRM36COG180J50V	2	SMD; C667.838
1320341Y(CAP. CERAMIC CHIP)	20PF GRM36COG200J50V	2	SMD; C883.885
1322869Y(CAP. CERAMIC CHIP)	2.2PF GRM36COG2R2C50V	2	SMD; C856.884

1322870Y(CAP. CERAMIC CHIP)	22PF GRM36COG220J50V	4	SMD; C123.319.320.836
1322892Y(CAP. CERAMIC CHIP)	220PF GRM36COH221J25V	2	SMD; C183.426
1302869Y(CAP. CERAMIC CHIP)	0.0022UF GRM36 X7R222K 50V	2	SMD; C202.211
1302870Y(CAP. CERAMIC CHIP)	0.0027UF GRM36X7R272K50V	1	SMD; C317
1302949Y(CAP. CERAMIC CHIP)	0.022UF GRM36X7R223K16V	1	SMD; C184.
1331101Y(CAP. CERAMIC CHIP)	3PF GRM36COG030C50V	3	SMD; C697.703.815
1333655Y(CAP. CERAMIC CHIP)	3.3PF GRM36COG3R3C50V	1	SMD; C892
1333666Y(CAP. CERAMIC CHIP)	33PF GRM36COG330J50V	1	SMD; C834
1303595Y(CAP. CERAMIC CHIP)	0.0033UF GRM36X7R332K50V	2	SMD; C204.306
1303650(CAP. CERAMIC CHIP)	0.033UF GRM36X7R333K10V	1	SMD; C307
1340187Y(CAP. CERAMIC CHIP)	4PF GRM36COG040C50V	3	SMD; C646.817.855
1347791Y(CAP. CERAMIC CHIP)	47PF GRM36COG470J50V	16	SMD; C205.351.359.364.366.367.368. 379.386.611.623.695.884. 846.868.870
1347856Y(CAP. CERAMIC CHIP)	470PF GRM36X7R471J50V	10	SMD; C330.391.401.402.403.421.424. 649.672.681
1304569Y (CAP.CERAMIC CHIP)	0.047UF GRM36 X5R473K 16V	1	SMD; C383
1350236Y(CAP. CERAMIC CHIP)	5PF GRM36COG050C50V	4	SMD; C685.691.842.847
1356513Y(CAP. CERAMIC CHIP)	5.6PF GRM36COG5R6D50V	1	SMD; C882
1356524Y(CAP. CERAMIC CHIP)	56PF GRM36COG560J50V	1	SMD; C820
1305335Y(CAP. CERAMIC CHIP)	0.056UF GRM36X7R563K16V	1	SMD; C305
1360187Y(CAP. CERAMIC CHIP)	6PF GRM36COG060D50V	2	SMD; C669.888
1368590Y(CAP. CERAMIC CHIP)	6.8PF GRM36COG6R8D50V	1	SMD; C889
1368600Y(CAP. CERAMIC CHIP)	68PF GRM36COG680J50V	1	SMD; C891
1368611Y(CAP. CERAMIC CHIP)	680PF GRM36X7R681K50V	2	SMD; C255.339
1306299Y(CAP. CERAMIC CHIP)	0.0068UF GRM36X7R682K25V	2	SMD; C324.353
1370171Y(CAP. CERAMIC CHIP)	7PF GRM36COG070D50V	4	SMD; C621.622.624.816
1380143Y(CAP. CERAMIC CHIP)	8PF GRM36COG080D50V	2	SMD; C124.853
1382456Y(CAP. CERAMIC CHIP)	82PF GRM36COG820J50V	2	SMD; C337.802
1382467Y(CAP.CERAMIC CHIP)	820PF GRM36X7R821K 50V	2	SMD; C218.805
130B275Y(CAP. CERAMIC CHIP)	0.001UF GRM39COG102J50V	2	SMD; C616.786
1310897Y(CAP.CERAMIC CHIP)	1UF GRM40Y5V105Z16V	2	SMD; C418.425
1311497Y(CAP. CERAMIC CHIP)	1UF GRM39Y5V105Z50V	8	SMD; C318.321.329.331.342.412.524.609
CAP. TANTALUM CHIP	1UF 16V TPM1C105PSSR	3	SMD; C314.608.610
1410882(CAP TANTALUM CHIP)	10UF 10V P 20%	8	SMD; C191.357.378.381.423.509.522.605
TLM1A107CSSR	100UF 10V C 20%	1	SMD; C384
TANTAL 0.22UF/16V P	TANTAL 0.22UF/16V P	2	SMD; C619,625.
1422878(CAP TANTALUM CHIP)	2.2UF 10V P 20%	1	SMD; C613
CAP. TANTALUM CHIP	22UF 6.3V TPM0J226PSSR	1	SMD; C312
CAP TANTALUM CHIP	47UF 6.3V TLM0J476ASSR	2	SMD; C170.813
COIL SPRING	0.3X0.9X3T(R)-SMD	1	SMD; L661
COIL SPRING	0.3X0.9X4T(L)-SMD	1	SMD; L651
COIL WIREWOUND CHIP	12NH SWI0603CT-12NJ	2	SMD; L851.861
COIL CHIP	15NH HBL1005-15NJ	1	SMD; L687
COIL CHIP	18NH HBL1005-18NK	3	SMD; L624.625.626
3121883(COIL INDUCTOR CHIP)	22NH SWI0603CT22N	3	SMD; L891.892.894
COIL CHIP	22NH HBL1005-22NJ	1	SMD; L686
COIL WIREWOUND CHIP	27NH SWI0603CT-27NJ	1	SMD; L842
3121904(COIL INDUCTOR CHIP)	33NH SWI0603CT33N	1	SMD; L893
COIL CHIP	33NH HBL1005-33NJ	1	SMD; L681
COIL CHIP	47NH HBL1005-47NJ	1	SMD; L843
COIL CHIP	220NH HBL1608-R22J	1	SMD; L802
3121289(COIL INDUCTOR CHIP)	0.47UH SWI0805FTR47	1	SMD; L831
COIL INDUCTOR CHIP	820NH EBL1608-R82K	3	SMD; L622.623.801
COIL CHIP	1.8UH EBL1608-1R8K	4	SMD; L601.602.603.604

CHIP BEAD	BLM15AG102SN1	7	SMD; L361.401.402.422.652.R311.R345
DIODE SWITCHING	KDS114E ESC	2	SMD; D121.697
DIODE SWITCHING	KDS121E ESM	3	SMD; D801.372.521
DIODE SWITCHING	KDS122 USM	1	SMD; D351
DIODE SWITCHING	KDS160E ESC	2	SMD; L601.861
DIODE VARICAP	KDV316E ESC	1	SMD; D662
DIODE VARICAP	KDV350E ESC	10	SMD; D651.652.661.663.851.852.891. 892.893.894
DIODE SCHOTTKY	KDR731 USM	1	SMD; D373
DIODE PIN TYPE	1SV307 USC 1-1E1A	1	SMD; D696
TR	KRA303E ESM	1	SMD; Q355
TR	KRA304E ESM	5	SMD; Q171.231.375.401.506
2003341(TR)	KTA1542T-RTK	2	SMD; Q371.504
TR	KTA2015-Y-RTK/P PNP USM	2	SMD; Q501.502
TR	2SC4226-R25-A NPN SC-70	2	SMD; Q651.661
TR	KRC404E ESM	8	SMD; Q201.202.203.204.356.522.622.802
TR	KRC414E ESM	2	SMD; Q373.374
TR	KRC657E TESV	1	SMD; Q621
2003355(TR)	KRC824E-RTK	3	SMD; Q176.372.503
2001131A(TR)	KTC4075-GR-RTK/P	1	SMD; Q602
2003070(TR)	AT-41532	2	SMD; Q801.821
2002776(TR)	2SC5086-Y	3	SMD; Q681.686.687
TR(P MOS FET)	TCP6103 2-3T1A	1	SMD; Q521
TR N-CH DUAL MOS FET	3SK293 2-2KIB	1	SMD; Q861
TR N-CH DUAL MOS FET	3SK324UG SC-82A	1	SMD; Q831
TR FET	2SK880-Y(SC-70)	1	SMD; Q601
TR FET	2SK1829 SC-70	1	SMD; Q862
2217936(IC PLL)	MB15E03SL	1	SMD; IC401
IC DAC CONVERTOR	M62364FP-TF1J	1	SMD; IC203
IC LCD DRIVER	LC75834W SQFP-48-7	1	SMD; IC251
IC MCU(SL-7402)	MB90F583CA(100 PIN LQFP)	1	SMD; IC121
IC AUDIO AMP	TA7368FG	1	SMD; IC371
2218837(IC AMPLIFIER)	NJM12902V	3	SMD; IC201.355.357
2217628(IC OP AMP)	NJM12904V	1	SMD; IC402
2205201(IC IF DETECT)	TA31136FN	1	SMD; IC801
IC MUX DEMUX	TC4W53FU SSOP8-P0.65	1	SMD; IC202
IC RESET MONITORS	TCM809 SC-70	1	SMD; IC122
2216544Z(IC VOLT. REGULATOR)	TK71730SCL-G	1	SMD; IC422
2213446Z(IC VOLT. REGULATOR)	TK71750SCL	1	SMD; IC522
IC EEPROM	24LC64-SN	1	SMD; IC171
2218813(IC)	MT8870DN1	1	SMD; IC231
IC AUDIO Processor	AK2346	1	SMD; IC311
SWITCH TACT	SKTS-1106R	3	SMD; SW296.297.298
SWIRCH TACT	SKTS-1114S	1	SMD; SW295
FILTER DISCRIMINATOR	CDBKB450KCAY24-R0	1	SMD; X801
XCO	3.6864MHz(SMD-49)	1	SMD; X311
XCO	8MHz(SMD-49TA)	1	SMD; X201
CRYSTAL	3.579545MHz(SMD-49TA)	1	SMD; X231
VCTCXO	DSA321SC	1	SMD; TCXO401
LED GREEN	SML-A12MT	2	SMD; LED171.172
2513293(LED LAMP)	BL-HGEUB36H-TRB	1	SUB; LED176
CONN. HEADER	IP127-V02B-N36	1	SUB; SP371
130B132Y(CAP. CERAMIC CHIP)	0.0012UF GRM36 X7R122K 50V	2	SMD; C310.806
1313127Y(CAP. CERAMIC CHIP)	13PF GRM36COG130J50V	1	SMD; C881
1315846Y(CAP. CERAMIC CHIP)	15PF GRM36 COG150J 50V	4	SMD; C125.233.234.851

1320330Y(CAP. CERAMIC CHIP)	2PF GRM36COG020C50V	4	SMD; C684.841.843.852
130B176Y(CERAMIC CHIP)	0.015UF GRM36 X5R153K 16V	1	SMD; C216
1318528Y(CERAMIC CHIP)	180PF GRM36 COH181J 25V	2	SMD; C209.308
1304581Y(CERAMIC CHIP)	0.0047UF GRM36 X7R472K 25V	2	SMD; C302.315
1356535Y(CERAMIC CHIP)	560PF GRM36 X7R561K 50V	4	SMD; C303.332.333.334
MCF	D46307G06 46.35MHz	1	SMD; X821
CONN. PLUG	9834-40A-GF	1	SMD; CON102
UPPER COVER ASSY(SL-7402)	UPPER COVER ASSY	1	
SL-7000 SPEAKER	SPEAKER 60HM	1	
SL-7000 CONN HOUSING	HP127-V02N-N36	1	
BACK COVER ASSY(SL-7402)	BACK COVER ASSY	1	
SL-7000 ANT CONNETOR	ANT CONNETOR	1	SUB; CONNECTOR ANT
POWER MODULE MANUAL ASSY(SL-7402)	POWER MODULE MANUAL ASSY	1	
PIN HEADER (2PIN)	9230B-1-02Z067-PT1	1	SUB; J701
PIN HEADER (5PIN)	9230B-1-05Z067-PT1	1	SUB; J602
POWER MODULE SMD ASSY(SL-7402)	POWER MODULE SMD ASSY	1	
05D0005Z(RES. CHIP)	0 1/16W 5% 1005	1	SMD; R721
05D1002Z(RES. CHIP)	10 1/16W 5% 1005	1	SMD; R731
05D1013Z(RES. CHIP)	100 1/16W 5% T 1005	1	SMD; R751
05D1024Z(RES. CHIP)	1K 1/16W 5% T 1005	2	SMD; R762.772
05D1035Z(RES. CHIP)	10K 1/16W 5% T 1005	1	SMD; R791
05D1244Z(RES. CHIP)	120K 1/16W 5% 1005	1	SMD; R796
05D1530Z(CHIP RESISTOR)	15K 1/16W 5% T 1005	1	SMD; R733
05D1848Z(RES. CHIP)	180K 1/16W 5% 1005	1	SMD; R797
05D2218Z(RES. CHIP)	220 1/16W 5% 1005	1	SMD; R722
05D2230Z(RES. CHIP)	22K 1/16W 5% 1005	1	SMD; R702
05D2724Z(RES. CHIP)	2.7K 1/16W 5% 1005	2	SMD; R713.791
05D4706Z(RES. CHIP)	47 1/16W 5% T 1005	1	SMD; R790
05D4728Z(RES. CHIP)	4.7K 1/16W 5% T 1005	2	SMD; R723.732
05D4740Z(RES. CHIP)	470K 1/16W 5% T 1005	1	SMD; R795
05D5615Z(RES. CHIP)	560 1/16W 5% T 1005	1	SMD; R799
05D6832Z(RES. CHIP)	68K 1/16W 5% T 1005	1	SMD; R798
05D8221Z(RES. CHIP)	8.2K 1/16W 5% 1005	1	SMD; R712
05B1024Z(RES. CHIP)	1K 1/16W 5% 1608	1	SMD; R792
05B4740Z(RES. CHIP)	470K 1/16W 5% 1608	1	SMD; R782
05B8232Z(RES. CHIP)	82K 1/16W 5% 1608	1	SMD; R781
1305258Y(CAP. CERAMIC CHIP)	0.5PF GRM36COG0R5C50V	4	SMD; C702.712.747.750
1311277Y(CAP. CERAMIC CHIP)	10PF GRM36COG100D50V	2	SMD; C704.716
130B121Y(CAP. CERAMIC CHIP)	0.001UF GRM36X7R102K50V	19	SMD; C701.711.714.721.723.724.726. 731.732.734.746.751.761.762. 771.772.791.792.797
130B165Y(CAP. CERAMIC CHIP)	0.01UF GRM36X7R103K16V	1	SMD; C793
130B198Y(CAP. CERAMIC CHIP)	0.1UF GRM36Y5V104Z16V	4	SMD; C728.735.795.796
1331101Y(CAP. CERAMIC CHIP)	3PF GRM36COG030C50V	2	SMD; C697.703
1347791Y(CAP. CERAMIC CHIP)	47PF GRM36COG470J50V	4	SMD; C713.722.752.798
1360187Y(CAP. CERAMIC CHIP)	6PF GRM36COG060D50V	1	SMD; C893
1310928Y(CAP. CERAMIC CHIP)	10PF GRM39COG100D50V	1	SMD; C819
130B275Y(CAP. CERAMIC CHIP)	0.001UF GRM39COG102J50V	1	SMD; C786
1313062Y(CAP. CERAMIC CHIP)	13PF GRM39COG130J50V	1	SMD; C745
1320242Y(CAP. CERAMIC CHIP)	2PF GRM39COG020C50V	1	SMD; C748
1322587Y(CAP. CERAMIC CHIP)	2.2PF GRM39COG2R2C50V	1	SMD; C749
1322598Y(CAP. CERAMIC CHIP)	22PF GRM39 COG220J 50V PT	1	SMD; C741
1331024Y(CAP. CERAMIC CHIP)	3PF GRM39COG030C50V	1	SMD; C781
1331035Y(CAP. CERAMIC CHIP)	30PF GRM39 COG300J 50V	1	SMD; C741
1333491Y(CAP. CERAMIC CHIP)	33PF GRM39COG330J50V	1	SMD; C733

1339305Y(CAP. CERAMIC CHIP)	39PF GRM39COG390J50V	1	SMD; C725
1356315Y(CAP. CERAMIC CHIP)	5.6PF GRM39COG5R6C50V	1	SMD; C785
1368381Y(CAP. CERAMIC CHIP)	6.8PF GRM39COG6R8D50V	1	SMD; C784
1390050Y(CAP. CERAMIC CHIP)	9PF GRM39COG090D50V	3	SMD; C781.783.784
1410882(CAP TANTALUM CHIP)	10UF 10V P 20%	1	SMD; C790
3121872(COIL INDUCTOR CHIP)	18NH SW10603CT18N	1	SMD; L894
COIL CHIP	18NH HBL1608-18NJ	1	SMD; L711
COIL CHIP	47NH HBL1608-47NJ	1	SMD; L701
3121641(COIL INDUCTOR CHIP)	82NH SWI0805CT82N	1	SMD; L751
CHIP BEAD	BLM15AG102SN1	2	SMD; L702.712
3212152(CHIP BEADS CORE)	BCM201209A600	1	SMD; L721
3119972(COIL SPRING)	0.3X1.2X5T:R(SMD)	2	SMD; L781.782
COIL SPRING	0.3X0.9X4T(L)-SMD	1	SMD; L742
COIL SPRING	0.3X0.9X5T(L)-SMD	1	SMD; L731
3119422(COIL SPRING)	21NH 281006TL	1	SMD; L746
DIODE SWITCHING	KDS114E ESC	2	SMD; L895.896
DIODE SCHOTTKY	KDR731 USM	2	SMD; D761.771
DIODE PIN TYPE	1SV307 USC 1-1E1A	1	SMD; D751
TR	KRC404E ESM	1	SMD; Q791
2003070(TR)	AT-41532	1	SMD; Q701
TR POWER	RD01MUS1 1W POWER TR	1	SMD; Q721
2003014(TR FET)	2SK3476	1	SMD; Q731
2031817Z(TR)	PBR951	1	SMD; Q711
IC AMPLIFIER	NJM2743F MTP5	1	SMD; IC791
FUSE(SL-7402)	0603FA3-R CHIP 1608	1	SMD; F531
BATT CONN. MANUAL ASSY(SL-7402)	BATT CONN. MANUAL ASSY	1	
PIN HEADER (2PIN)	9230B-1-02Z067-PT1	1	SUB; J501
BATT CONN. SMD ASSY(SL-7402)	BATT CONN. SMD ASSY	1	
130B121Y(CAP. CERAMIC CHIP)	0.001UF GRM36X7R102K50V	7	SMD; C526.532.533.534.535.536.537
3119972(COIL SPRING)	0.3X1.2X5T:R(SMD)	3	SMD; L531.532.533
BATT CONTACT MANUAL ASSY(SL-7402)	BATT CONTACT MANUAL ASSY	1	
PIN HEADER (2PIN)	9230B-1-02Z067-PT1	1	SUB; J511
BATT CONTACT SMD ASSY(SL-7402)	BATT CONTACT SMD ASSY	1	
752965(TERMINAL)	BE-CU T0.2 GOLD-PLATE	2	SUB;
MAIN CHARGER MAN ASSY(SL-7402)	MAIN CHARGER MAN ASSY	1	
1023013(CAP. ELECT)	220UF 35V 20% 8X12	1	SUB; C104
1048139X(CAP. ELECT)	470UF 16V 20% 8X12	2	SUB; C301.303
1047300(CAP. ELECT)	470UF 35V 20% 10X16	1	SUB; C101
2512864Z(LED LAMP)	L-115 VEGW	1	SUB; LED301
4207053Z(JACK DC POWER)	DC-470 2.5MM	1	SUB; JK101
MAIN CHARGER SMD ASSY(SL-7402)	MAIN CHARGER SMD ASSY	1	
130A747Y(CAP. CERAMIC CHIP)	0.1UF GRM39Y5V104Z25V	6	SMD; C102.103.105.106.107.302
05B1518Z(CHIP RESISTOR)	150 1/16W 5% T 1608	2	SMD; R203.204
05B1529Z(RES. CHIP)	1.5K 1/16W 5% 1608	1	SMD; R101
05B2229Z(RES. CHIP)	2.2K 1/16W 5% T 1608	2	SMD; R201.202
Resistor Fixed	REF,CHIP,240ohm,1%,1/10w 2012	1	SMD; R102
05B4739Z(RES. CHIP)	47K 1/16W 5% 1608	2	SMD; R304.305
05B5615Z(RES. CHIP)	560 1/16W 5% 1608	1	SMD; R301
RESISTOR CHIP	MHR03D6191 6.19K OHM	1	SMD; R302
RESISTOR CHIP	MHR03D7321 7.32K OHM	1	SMD; R303
IC REGULATOR	LM317D2TXM	1	SMD; IC101
IC REGULATOR	MCP1702T-5002E/MB	1	SMD; IC102
IC CMC CHIP	MCP73862 QFN16	1	SMD; IC301

SL7000SERIES HAND HELD

IC MCU	PIC16F677 SSOP20	1	SMD; IC201
DIODE RECTIFIER	S2A	2	SMD; D101.102
BATTERY ASSY(SL-7402)	BATTERY ASSY	1	
SL-7000 BATTERY LITHIUM POLYMER	LITHIUM POLYMER 1500mAH	1	
PORTABLE CHARGER ASSY(SL-7402)	PORTABLE CHARGER ASSY	1	
BALT CLIP ASSY(SL-7402)	BALT CLIP ASSY	1	
PACKING ASSY(SL-7402)	PACKING ASSY	1	

8-2 SL7102

Name	Description	Qty	Reference No
7907 SL-7102(FFF)8125	LMR Portable VHF 256CH, 5W, 136~174MHz	1	
MAIN CIRCUIT MAN ASSY(SL-7102)	MAIN CIRCUIT MAN ASSY	1	
4504581(VOLUME)	TP76N17N 15F A203 (RY-8141)	1	SUB; VR371
4300772(SW ROTARY)	EC10SP16-68	1	SUB; SW171
4360641(SW TACT)	SKHLLFA010	1	SUB; SW355
JACK PHONE	SKJS-211A	1	SUB; J355
JACK PHONE	SKJS-3516	1	SUB; J371
MIC CONDENSER	OB-27P44	1	SUB; MIC355
FILTER CERAMIC	CFWLB450KFFA-B0	1	SUB; X802
REFLECTOR(SL-7402)	PC CLEAR	1	SUB;
BRACKET LCD(SL-7402)	SPT 0.3T	1	SUB;
SHIELD VCO(SL-7402)	SPT 0.2T	1	SUB;
SHIELD PLATE LNA (SL7102)	SPT 0.2T	1	SUB;
ZEBRA CONTACT(SL-7402)	SILICONE RUBBER	2	SUB;
LCD DISPLAY(SL-7402)-	EN-T81091B6PTA	1	SUB; LCD251
ANTENNA	SW-146SMH	1	SUB;
MAIN CIRCUIT SMD ASSY(SL-7102)	MAIN CIRCUIT SMD ASSY	1	
05D0005Z(RES. CHIP)	0 1/16W 5% 1005	6	SMD; R241.322.339.617.653.626
05D1002Z(RES. CHIP)	10 1/16W 5% 1005	8	SMD; R355.377.379.400.411.661.688.866
05D1013Z(RES. CHIP)	100 1/16W 5% T 1005	9	SMD; R176.310.687.690.821.834.835.841.863
05D1024Z(RES. CHIP)	1K 1/16W 5% T 1005	12	SMD; R127.172.293.294.295.296.359.373.383.386.601.806
05D1035Z(RES. CHIP)	10K 1/16W 5% T 1005	25	SMD; R213.231.325.368.401.403.404.405.406.415.418.422.502.504.506.603.604.623.696.833.842.852.867.892.893
05D1046Z(RES. CHIP)	100K 1/16W 5% T 1005	32	SMD; R101.102.103.128.132.133.134.135.210.211.219.222.223.224.237.251.306.328.329.330.334.361.364.382.384.402.423.522.611.686.891.894
05D1057Z(RES. CHIP)	1M 1/16W 5% T 1005	3	SMD; R125.245.320
05D1530Z(RES. CHIP)	15K 1/16W 5% T 1005	2	SMD; R381.612
05D1826Z(RES. CHIP)	1.8K 1/16W 5% 1005	2	SMD; R625.868
05D1541Z(RES. CHIP)	150K 1/16W 5% 1005	8	SMD; R207.240.305.349.350.666.682.809
05D1222Z(RES. CHIP)	1.2K 1/16W 5% T 1005	2	SMD; R179.816
05D2229Z(RES. CHIP)	2.2K 1/16W 5% T 1005	9	SMD; R104.105.185.186.187.188.505.605.616
05D2724Z(RES. CHIP)	2.7K 1/16W 5% 1005	1	SMD; R374
05D1233Z(RES. CHIP)	12K 1/16W 5% 1005	7	SMD; R122.123.124.338.244.351.838
05D1837Z(RES. CHIP)	18K 1/16W 5% T 1005	5	SMD; R217.304.308.337.807
05D1848Z(RES. CHIP)	180K 1/16W 5% 1005	3	SMD; R226.608.619
05D1244Z(RES. CHIP)	120K 1/16W 5% 1005	3	SMD; R602.613.836
05D3325Z(RES. CHIP)	3.3K 1/16W 5% 1005	3	SMD; R326.375.803
05D4795Z(RES. CHIP)	4.7 1/16W 5% 1005	1	SMD; R664
05D2218Z(RES. CHIP)	220 1/16W 5% 1005	3	SMD; R126.811.812
05D1518Z(RES. CHIP)	150 1/16W 5% 1005	2	SMD; R810.824
05D1529Z(RES. CHIP)	1.5K 1/16W 5% T 1005	1	SMD; R624
05D2230Z(RES. CHIP)	22K 1/16W 5% 1005	7	SMD; R201.228.229.332.333.805.813
05D5615Z(RES. CHIP)	560 1/16W 5% T 1005	1	SMD; R832
05D5626Z(RES. CHIP)	5.6K 1/16W 5% 1005	1	SMD; R416
05D2241Z(RES. CHIP)	220K 1/16W 5% 1005	8	SMD; R316.362.370.385.823.851.854.869
05D2735Z(RES. CHIP)	27K 1/16W 5% 1005	2	SMD; R313.689
05D5637Z(RES. CHIP)	56K 1/16W 5% 1005	3	SMD; R227.353.808
05D6810Z(RES. CHIP)	680 1/16W 5% 1005	2	SMD; R178.621
05D2746Z(RES. CHIP)	270K 1/16W 5% 1005	1	SMD; R521
05D3303Z(RES. CHIP)	33 1/16W 5% 1005	1	SMD; R376
05D6821Z(RES. CHIP)	6.8K 1/16W 5% 1005	4	SMD; R651.652.662.663
05D6832Z(RES. CHIP)	68K 1/16W 5% T 1005	9	SMD; R203.204.205.206.209.238.336.365.802
05D3336Z(RES. CHIP)	33K 1/16W 5% T 1005	7	SMD; R218.302.307.324.358.366.420
05D3347Z(RES. CHIP)	330K 1/16W 5% 1005	1	SMD; R220
05D6843Z(RES. CHIP)	680K 1/16W 5% 1005	2	SMD; R318.817
05D7521Z(RES. CHIP)	7.5K 1/16W 5% 1005	1	SMD; R236

05D8221Z(RES. CHIP)	8.2K 1/16W 5% 1005	5	SMD; R327.342.343.367.417
05D3918Z(RES. CHIP)	390 1/16W 5% 1005	1	SMD; R622
05D3930Z(RES. CHIP)	39K 1/16W 5% 1005	2	SMD; R202.323
05D8232Z(RES. CHIP)	82K 1/16W 5% 1005	3	SMD; R309.837.864
05D3941Z(RES. CHIP)	390K 1/16W 5% 1005	4	SMD; R335.352.363.607
05D4706Z(RES. CHIP)	47 1/16W 5% T 1005	3	SMD; R801.804.861
05D4717Z(RES. CHIP)	470 1/16W 5% 1005	5	SMD; R221.356.357.421.822
05D4728Z(RES. CHIP)	4.7K 1/16W 5% T 1005	12	SMD; R140.214.215.225.235.331.347.372.387.501.503.697
POTENTIONMETER	10K MVR21 HXBR 103	1	SMD; VR416
05D4739Z(RES. CHIP)	47K 1/16W 5% T 1005	13	SMD; R157.158.208.232.233.234.252.341.344.348.380.606.865
05D4751Z(RES. CHIP)	4.7M 1/16W 5% 1005	1	SMD; R371
05D9130Z(RES. CHIP)	91K 1/16W 5% 1005	1	SMD; R419
1305258Y(CAP. CERAMIC CHIP)	0.5PF GRM36COG0R5C50V	3	SMD; C650.663.673
130B121Y(CAP. CERAMIC CHIP)	0.001UF GRM36X7R102K50V	71	SMD; C173.200,1,12,14,31,58.311,23,37,41,55,56,61.372-76.382,7,9,90.405,6.502,3,25,27,28,29.601-3,6,65,71,83.686-.803,12,18,22-89.693,4,625,32,35,37,39,40,45,53-55,57,8,61,63,65,67,69,86,87,90
05B0005Z(RES. CHIP)	0 1/16W 5% 1608	1	SMD; R825
05B1013Z(RES. CHIP)	100 1/16W 5% T 1608	1	SMD; R378
130B165Y(CAP. CERAMIC CHIP)	0.01UF GRM36X7R103K16V	15	SMD; C206.213.222.307.338.419.420.422.501.504.508.523.604.648.833
1311277Y(CAP. CERAMIC CHIP)	10PF GRM36COG100D50V	6	SMD; C417.622.690.692.881.889
130B132Y(CAP. CERAMIC CHIP)	0.0012UF GRM36 X7R122K 50V	2	SMD; C310.806
130B143Y(CAP. CERAMIC CHIP)	0.0015UF GRM36X7R152K50V	1	SMD; C352
05D4740Z(RES. CHIP)	470K 1/16W 5% T 1005	5	SMD; R317.321.340.618.870
05D5109Z(RES. CHIP)	51 1/16W 5% 1005	1	SMD; R410
1311299Y(CAP. CERAMIC CHIP)	100PF GRM36COG101J50V	5	SMD; C362.410.411.821.851
130B198Y(CAP. CERAMIC CHIP)	0.1UF GRM36Y5V104Z16V	48	SMD; C121.122.128.171.181.182.192.193.207.208.217.219.220.221.232.235.256.257.302,9.313.316.326.327.328.335.340.343.344.345.358.363.377.388.408.409.415.416.505.507.521.615.618.626.801.804.807.864
130B363Y(CAP. CERAMIC CHIP)	0.1UF GRM36X5R104K10V	4	SMD; C808.809.811.814
1312575Y(CAP. CERAMIC CHIP)	120PF GRM36COG121J50V	1	SMD; C203
1311497Y(CAP. CERAMIC CHIP)	1UF GRM39Y5V105Z50V	9	SMD; C183.318.321.329.331.342.412.524.609
1310897Y(CAP. CERAMIC CHIP)	1UF GRM40Y5V105Z16V	1	SMD; C425
1310928Y(CAP. CERAMIC CHIP)	10PF GRM39COG100D50V	1	SMD; C819
1312564Y(CAP. CERAMIC CHIP)	12PF GRM36COG120J50V	3	SMD; C645.838.847
1318517Y(CAP. CERAMIC CHIP)	18PF GRM36COG180J50V	1	SMD; C668
1302869Y(CAP. CERAMIC CHIP)	0.0022UF GRM36 X7R222K 50V	5	SMD; C202.211.306.315.332
1320341Y(CAP. CERAMIC CHIP)	20PF GRM36COG200J50V	3	SMD; C624.646.667
1302949Y(CAP. CERAMIC CHIP)	0.022UF GRM36X7R223K16V	1	SMD; C184
1302870Y(CAP. CERAMIC CHIP)	0.0027UF GRM36X7R272K50V	2	SMD; C317.324
1318528Y(CERAMIC CHIP)	180PF GRM36 COH181J 25V	2	SMD; C209.308
1314071Y (CAP. CERAMIC CHIP)	14PF GRM1555C1H140J	1	SMD; C621
1315846Y(CAP. CERAMIC CHIP)	15PF GRM36 COG150J 50V	3	SMD; C125.233.234
1303595Y(CAP. CERAMIC CHIP)	0.0033UF GRM36X7R332K50V	2	SMD; C204.334
1322870Y(CAP. CERAMIC CHIP)	22PF GRM36COG220J50V	4	SMD; C123.319.320.836
1320330Y(CAP. CERAMIC CHIP)	2PF GRM36COG020C50V	4	SMD; C684.841.842.843
1322892Y(CAP. CERAMIC CHIP)	220PF GRM36COH221J25V	19	SMD; C210.260.263-77.354.426
1324163Y(CAP. CERAMIC CHIP)	24PF GRM36COG240J50V	2	SMD; C669.685
1304569Y (CAP. CERAMIC CHIP)	0.047UF GRM36 X5R473K 16V	4	SMD; C305.353.370.383
1304581Y(CERAMIC CHIP)	0.0047UF GRM36 X7R472K 25V	1	SMD; C333
1327494Y(CAP. CERAMIC CHIP)	2.7PF GRM36COG2R7C50V	1	SMD; C884
1327504Y(CAP. CERAMIC CHIP)	27PF GRM36COG270J50V	1	SMD; C834
1331101Y(CAP. CERAMIC CHIP)	3PF GRM36COG030C50V	1	SMD; C815
1331112Y(CAP. CERAMIC CHIP)	30PF GRM36COG300J50V	2	SMD; C852.856
1333666Y(CAP. CERAMIC CHIP)	33PF GRM36COG330J50V	1	SMD; C810
1340187Y(CAP. CERAMIC CHIP)	4PF GRM36COG040C50V	1	SMD; C817
1347791Y(CAP. CERAMIC CHIP)	47PF GRM36COG470J50V	19	SMD; C205.351.359.364.366.367.368.379.385.386.611.623.647.695.844.846.868.870.871
1347856Y(CAP. CERAMIC CHIP)	470PF GRM36X7R471J50V	11	SMD; C330.365.391.401.402.403.421.424.649.672.681
1350236Y(CAP. CERAMIC CHIP)	5PF GRM36COG050C50V	1	SMD; C691

1356524Y(CAP. CERAMIC CHIP)	56PF GRM36COG560J50V	1	SMD; C820
1368600Y(CAP. CERAMIC CHIP)	68PF GRM36COG680J50V	2	SMD; C883.885
1336184Y(CAP. CERAMIC CHIP)	3.6pF, GRM36COG3R6C 50V	1	SMD; C891
1368611Y(CAP. CERAMIC CHIP)	680PF GRM36X7R681K50V	1	SMD; C255
1370171Y(CAP. CERAMIC CHIP)	7PF GRM36COG070D50V	1	SMD; C816
1380143Y(CAP. CERAMIC CHIP)	8PF GRM36COG080D50V	2	SMD; C124.664
1382456Y(CAP. CERAMIC CHIP)	82PF GRM36COG820J50V	1	SMD; C802
1382467Y(CAP. CERAMIC CHIP)	820PF GRM36X7R821K 50V	2	SMD; C218.805
CAP. TANTALUM CHIP	1UF 16V TPM1C105PSSR	3	SMD; C371.608.610
1410882(CAP TANTALUM CHIP)	10UF 10V C 20%	8	SMD; C191.357.378.381.423.509.522.605
TLM1A107CSSR	100UF 10V C 20%	1	SMD; C384
CHIP TANTALUM	0.22uF, TPM1C224PSSR 16V(P)	3	SMD; C314.619.625
1422878(CAP TANTALUM CHIP)	2.2UF 10V P 20%	2	SMD; C325.613
CAP. TANTALUM CHIP	22UF 6.3V TPM0J226PSSR	1	SMD; C312
CAP TANTALUM CHIP	47UF 6.3V TLM0J476ASSR	2	SMD; C170.813
1447222Z(CAP TANTALUM CHIP)	4.7UF 10V P 20%	1	SMD; C418
COIL WIREWOUND CHIP	LQW2BH47NG03	1	SMD; L651
COIL WIREWOUND CHIP	LQW2BH56NG03	1	SMD; L661
COIL CHIP	18NH HBL1005-18NK	2	SMD; L625.626
COIL WIREWOUND CHIP	LQW2BH68NJ03	3	SMD; L851.853.861
COIL WIREWOUND CHIP	LQW2BH82NJ03	4	SMD; L852.891.892.893
COIL CHIP	100NH LQG15HSR10J02 (1005)	3	SMD; L681.686.687
COIL WIREWOUND CHIP	27NH SWI0603CT-27NJ	1	SMD; L842
COIL WIREWOUND CHIP	47NH SWI0603CT-47N	1	SMD; L624
COIL INDUCTOR CHIP	180NH HBL1608-R18NJ	1	SMD; L843
COIL CHIP	220NH HBL1608-R22J	1	SMD; L802
3121289(COIL INDUCTOR CHIP)	0.47UH SWI0805FTR47	1	SMD; L831
COIL INDUCTOR CHIP	820NH EBL1608-R82K	3	SMD; L622.623.801
COIL CHIP	1.8UH EBL1608-1R8K	3	SMD; L601.603.604
CHIP BEAD	BLM15AG102SN1	8	SMD; L361.362.401.402.422.652.R311.R345
DIODE SWITCHING	KDS114E ESC	2	SMD; D121.697
2205201(IC IF DETECT)	TA31136FN	1	SMD; IC801
IC MCU(SL-7402)	MB90F583CAPFV-GE1(100 PIN LQFP)	1	SMD; IC121
IC DAC CONVERTOR	M62364FP3TF1G	1	SMD; IC203
2217936(IC PLL)	MB15E03SL	1	SMD; IC401
2218813(IC)	MT8870DN1	1	SMD; IC231
IC LCD DRIVER	LC75834W-E, SQFP-48-7	1	SMD; IC251
IC RESET MONITORS	TCM809LVLB713 SC-70	1	SMD; IC122
IC AUDIO AMP	TA7368FG	1	SMD; IC371
IC MUX DEMUX	TC4W53FU SSOP8-P0.65	1	SMD; IC202
TR	KRA304E ESM	5	SMD; Q171.231.375.401.506
DIODE SWITCHING	KDS121E ESM	4	SMD; D372.381.521.801
2003341(TR)	KTA1542T-RTK	2	SMD; Q371.504
EEPROM I.C(SL-7402)	24LC128T-I/SN	1	SMD; IC171
TRANSISTOR	KRA302E ESM	1	SMD; Q355
IC AUDIO Processor	AK2346P-E2	1	SMD; IC311
2218837(IC AMPLIFIER)	NJM12902V	3	SMD; IC201.355.357
2217628(IC OP AMP)	NJM12904V	1	SMD; IC402
TR	KTA2015-Y-RTK/P PNP USM	2	SMD; Q501.502
DIODE SWITCHING	KDS160E ESC	2	SMD; D601.861
DIODE VARICAP	KDV316E ESC	1	SMD; D662
TR	2SC4226-R25-A NPN SC-70	2	SMD; Q651.661
2216544Z(IC VOLT. REGULATOR)	TK71730SCL-G	1	SMD; IC422
2213446Z(IC VOLT. REGULATOR)	TK71750SCL	1	SMD; IC522
TR	KRC404E ESM	9	SMD; Q201.202.203.204.305.356.522.622.802
DIODE VARICAP	KDV365F TFSC	4	SMD; D851.852.853.854
DIODE VARICAP	KDV375F TFSC	7	SMD; D651.653.661.663.665.892.894
TR	KRC414E ESM	2	SMD; Q373.374
TR	KRC657E TESV	1	SMD; Q621
DIODE SCHOTTKY	KDR731 USM	1	SMD; D373
DIODE PIN TYPE	1SV307 USC 1-1E1A	1	SMD; D696
2003355(TR)	KRC824E-RTK	3	SMD; Q176.372.503
2001131A(TR)	KTC4075-GR-RTK/P	2	SMD; Q381.602
LED GREEN	SML-A12MT	2	SMD; LED171.172
SWITCH TACT	SKTS-1106R	4	SMD; SW295.296.297.298
CONN. HEADER	IP127-V02B-N36	1	SMD; SP371

FILTER DISCRIMINATOR	CDBKB450KCAY24-R0	1	SMD; X801
XCO	3.6864MHz, 1AL/1AV036866B	1	SMD; X311
2513293(LED LAMP)	BL-HGEUB36H-TRB	1	SMD; LED176
2003070(TR)	AT-41532	2	SMD; Q801.821
2002776(TR)	2SC5086-Y	3	SMD; Q681.686.687
XCO	8.000MHz, 1AL/1AV080006AA	1	SMD; X201
CONNECTOR(SL-7402)	9834B-40Y900 0.5 PITCH	1	SMD; CON102
CONNECTOR PIN HEADER	FEMALE 1.27MM (FA04-1-03-G1)	1	SMD; J702
CRYSTAL	3.579545MHz, 1AL/1AV035796AF	1	SMD; X231
TR(P MOS FET)	TPC6103 2-3T1A	1	SMD; Q521
TR N-CH DUAL MOS FET	3SK293 2-2KIB	1	SMD; Q861
CONNECTOR PIN HEADER	FEMALE 1.27MM (FA04-1-05-G1)	1	SMD; J601
VCTCXO	15.300MHz, DSA321SC	1	SMD; TCXO401
CRYSTAL FILTER(SL7402)	46.350MHz, DSF753SBF(1D46307GQ6)	1	SMD; X821
TR N-CH DUAL MOS FET	3SK324UG SC-82A	1	SMD; Q831
TR FET	2SK880-Y(SC-70)	1	SMD; Q601
TR FET	2SK1829 SC-70	1	SMD; Q862
MAIN PCB ASSY(SL7102)	143.0x124.6x1.0T, FR4, 4L, GOLD (2A)	1	SMD;
PCB PW MODULE(SL7102)*	40.5X32.5X1.0T	1	SMD;
PCB MAIN(SL7102)*	51.0X124.6X1.0T	1	SMD;
PCB BATT CONN(SL7102)*	14.0X18.0X1.0T	1	SMD;
PCB BATT. CONTACT(SL7102)*	30.0X9.5X1.0T	1	SMD;
UPPER COVER ASSY(SL-7402)	UPPER COVER ASSY	1	
WINDOW LCD(SL-7402)	PC CLEAR	1	SUB;
KNOB LATCH(SL-7402)	PC BLACK	1	SUB;
LATCH(SL-7402)	SUS304 1.2T	1	SUB;
LENS LED(SL-7402)	SILICONE RUBBER TRANSPARENCY	1	SUB;
RUBBER EMG(SL-7402)	SILICONE RUBBER	1	SUB;
KNOB EMG(SL-7402)	PC ORANGE	1	SUB;
907544(FELT SPK)	FELT T0.2	1	SUB;
KEYPAD(SL-7402)	SILICONE RUBBER SILK	1	SUB;
GASKET MIC(SL-7402)	SILICONE RUBBER	1	SUB;
TAPE WINDOW(SL-7402)	DOUBLE TAPE 3M-9448HK	1	SUB;
FELT MIC(SL-7402)	WATER RESISTANT FELT 0.1T	1	SUB;
881636(SPRING)	SUS 304 WPA &0.25	2	SUB;
CONNECTOR HOUSING(SL-7402)	HP127-V02N-N36	1	SUB;
SPEAKER(SL-7402)	E-36S06-01 6 OHM 1W 36MM	1	SUB;
BACK COVER ASSY(SL-7102)	BACK COVER ASSY	1	
BACK COVER(SL-7402)	ALDC12 NI-PLATE	1	SUB;
BRACKET JACK(SL-7402)	SPT 0.3T	1	SUB;
COVER PLATE(SL-7402)	SUS304 0.4T	1	SUB;
BRACKET VOL(SL-7402)	SUS304 0.5T	1	SUB;
881609A(SPRING CHANNEL)	BECU T0.2	1	SUB;
881764(SPRING VOL SP-0402)	SK5 T0.2	1	SUB;
GASKET MAIN(SL-7402)	SILICONE RUBBER	1	SUB;
GASKET TERMINAL(SL-7402)	SILICONE RUBBER	1	SUB;
SHIELD PLATE(SL7402)	SPT 0.2	1	SUB;
SHIELD PLATE PM(SL7402)	SPT 0.2	1	SUB;
DUST CAP(SL-7402)	PC BLACK	1	SUB;
HOLDER GASKET(SL-7402)	PC BLACK	1	SUB;
REAR PANEL(SL-7402)	PC BLACK	1	SUB;
TAPE COVER PLATE(SL7402)	39.7X29.7 3M9448HK T0.16	1	SUB;
KNOB VOL(SL-7402)	PC BLACK	1	SUB;
KNOB CH(SL-7402)	PC BLACK	1	SUB;
650359(NUT)	BSBM 1/4 D9.3	1	SUB;
650362(NUT ANT)	BSBM(MB20) M8 D10	1	SUB;
650373(NUT VOL)	BSBM(MB20) M6 D8	1	SUB;
FABRIC GASKET (SL-7402)	71TSFK 10 - 5.5 - 9.1 - 15	1	SUB;
612009(+)MACHINE SCREW PH	2X4 ZN-PLAT	8	SUB;
612045(+)MACHINE SCREW PH	2X6 BLK	4	SUB;
611110(+)MACHINE SCREW BH	2.6X4 BLK	1	SUB;
SCREW MACHINE (SL7402)	SH(+), M2X3 SPECIAL HEAD ZN-PLATE	3	SUB;

BOLT HEXAGON(SL-7402)	M2X3 NI-PLATE	2	SUB;
(+)TAPPING SCREW BH	2X6 -2S ZN-PLAT	2	SUB;
CONNECTOR	SMA-R(M)-Q3	1	SUB;
THERMAL PAD (SL-7402)	EXHT-1.0T-G1560-14-6-C	1	SUB;
POWER MODULE MAN ASSY(SL-7102)	POWER MODULE MAN ASSY	1	
POWER MODULE SMD ASSY(SL-7102)	POWER MODULE SMD ASSY	1	
05D0005Z(RES. CHIP)	0 1/16W 5% 1005	2	SMD; C697.702
05B0005Z(RES. CHIP)	0 1/16W 5% 1608	1	SMD; L895
05D1002Z(RES. CHIP)	10 1/16W 5% 1005	1	SMD; R731
05D1013Z(RES. CHIP)	100 1/16W 5% T 1005	1	SMD; R751
05D1024Z(RES. CHIP)	1K 1/16W 5% T 1005	3	SMD; R762.772.792
05D1244Z(RES. CHIP)	120K 1/16W 5% 1005	1	SMD; R796
05D1848Z(RES. CHIP)	180K 1/16W 5% 1005	1	SMD; R797
05D2218Z(RES. CHIP)	220 1/16W 5% 1005	1	SMD; R722
05D2724Z(RES. CHIP)	2.7K 1/16W 5% 1005	1	SMD; R713
05D4706Z(RES. CHIP)	47 1/16W 5% T 1005	1	SMD; R790
05D4728Z(RES. CHIP)	4.7K 1/16W 5% T 1005	3	SMD; R723.732.791
05D4740Z(RES. CHIP)	470K 1/16W 5% T 1005	1	SMD; R795
05D5615Z(RES. CHIP)	560 1/16W 5% T 1005	1	SMD; R799
05D6832Z(RES. CHIP)	68K 1/16W 5% T 1005	1	SMD; R798
05D8221Z(RES. CHIP)	8.2K 1/16W 5% 1005	1	SMD; R712
05B4740Z(RES. CHIP)	470K 1/16W 5% 1608	1	SMD; R782
05B8232Z(RES. CHIP)	82K 1/16W 5% 1608	1	SMD; R781
1305258Y(CAP. CERAMIC CHIP)	0.5PF GRM36COG0R5C50V	2	SMD; C747.750
130B121Y(CAP. CERAMIC CHIP)	0.001UF GRM36X7R102K50V	18	SMD;C711.714.721.723.724.726.731.732.734.751.761.762.771.772.791.792.797.892
1311288Y(CAP. CERAMIC CHIP)	11PF GRM36COG110J 50V	1	SMD; C704
1315846Y(CAP. CERAMIC CHIP)	15PF GRM36 COG150J 50V	1	SMD; C716
130B165Y(CAP. CERAMIC CHIP)	0.01UF GRM36X7R103K16V	1	SMD; C793
1313062Y(CAP. CERAMIC CHIP)	13PF GRM39COG130J50V	1	SMD; C785
1347791Y(CAP. CERAMIC CHIP)	47PF GRM36COG470J50V	4	SMD; C713.722.752.798
1314058Y(CAP. CERAMIC CHIP)	14PF GRM39COG140J50V	2	SMD; C745.748
1320253Y(CAP. CERAMIC CHIP)	20PF GRM39COG200J50V	1	SMD; C733
130B198Y(CAP. CERAMIC CHIP)	0.1UF GRM36Y5V104Z16V	4	SMD; C728.735.795.796
1316041Y(CAP. CERAMIC CHIP)	16PF GRM39COG160J50V	2	SMD; C753.783
1310939Y(CAP. CERAMIC CHIP)	100PF GRM39 COG101J 50V PT	1	SMD; C725
130B275Y(CAP. CERAMIC CHIP)	0.001UF GRM39COG102J50V	2	SMD; C746.786
1331035Y(CAP. CERAMIC CHIP)	30PF GRM39 COG300J 50V	2	SMD; C741.781
1410882(CAP TANTALUM CHIP)	10UF 10V P 20%	1	SMD; C790
1347560Y(CAP. CERAMIC CHIP)	4.7PF GRM39COG4R7C50V	1	SMD; C749
COIL SPRING (SL-7102)	E2L 0.26X1.4X9TN	2	SMD; L746.781
COIL INDUCTOR CHIP	100NH HBL1608-R10NJ	1	SMD; L711
3121322(COIL INDUCTOR CHIP)	1UH SWI0805FT1RO	1	SMD; L751
COIL CHIP	220NH HBL1608-R22J	1	SMD; R721
COIL WIREWOUND CHIP	120NH SWI0603 CT R12J	1	SMD; L894
3123479(COIL SPRING)	0.45RX1.4X5T(LH)-SMD	1	SMD; L782
COIL SPRING (SL-7102)	E2L 0.26X1.4X10TN	1	SMD; L731
COIL SPRING SMD	E2L 0.3 X 1.2 X 4TN	1	SMD; L742
CHIP BEAD	BLM15AG102SN1	1	SMD; L712
3212152(CHIP BEADS CORE)	BCM201209A600	1	SMD; L721
FUSE(SL-7402)	0603FA3-R CHIP 1608	1	SMD; F531
IC AMPLIFIER	NJM2743F MTP5	1	SMD; IC791
TR	KRC404E ESM	1	SMD; Q791
DIODE SWITCHING	KDS114E ESC	2	SMD; D895.896
DIODE SCHOTTKY	KDR731 USM	2	SMD; D761.771
TR POWER	RD01MUS1 1W POWER TR	1	SMD; Q721
DIODE PIN TYPE	1SV307 USC 1-1E1A	1	SMD; D751
2003014(TR FET)	2SK3476 (TE12L,Q)	1	SMD; Q731
2031817Z(TR)	PBR951	1	SMD; Q711
CONNECTOR PIN HEADER	MALE 1.27MM (HA03-1-03-35)	1	SMD; J701
CONNECTOR PIN HEADER	MALE 1.27MM (HA03-1-05-35)	1	SMD; J602
BATT CONN. MANUAL ASSY(SL-7402)	BATT CONN. MANUAL ASSY	1	
CONNECTOR PIN HEADER(SL7402)	9230B-1-02Z163-PT1 2PIN 1.5PITCH	1	SUB; J501

BATT CONN. SMD ASSY(SL-7402)	BATT CONN. SMD ASSY	1	
130B121Y(CAP. CERAMIC CHIP)	0.001UF GRM36X7R102K50V	7	SMD; C526.532.533.534.535.536.537
3119972(COIL SPRING)	0.3X1.2X5T:L(SMD)	3	SMD; L531.532.533
PCB TERMINAL (SL-7402)	107X107X1.0T FR-4, 2L, OSP	1	SMD;
BATT CONTACT MANUAL ASSY(SL-7402)	BATT CONTACT MANUAL ASSY	1	
CONNECTOR PIN HEADER(SL7402)	9230B-1-02Z162-PT1 2PIN 1.5PITCH	1	SUB; J511
BATT CONTACT SMD ASSY(SL-7402)	BATT CONTACT SMD ASSY	1	
CONNECTOR SPRING (SL7402)	C3604, AU-PLATED	2	FIN;
ADAPTOR ASSY(SL-7402)	ADAPTOR ASSY	1	
ADAPTOR AC/DC-SMPS (EU)	AK02G-1200100V, 12V, 1A	1	SUB;
MAIN CHARGER MAN ASSY(SL-7402)	MAIN CHARGER MAN ASSY	1	
1023013(CAP. ELECT)	220UF 35V 20% 8X12 T5.0pt	1	SUB; C104
1047300(CAP. ELECT)	470UF 35V 20% 10X16	1	SUB; C101
2512864Z(LED LAMP)	L-115 VEGW	1	SUB; LED301
4207053Z(JACK DC POWER)	DC-470 2.5MM	1	SUB; JK101
MAIN CHARGER SMD ASSY(SL-7402)	MAIN CHARGER SMD ASSY	1	
130A747Y(CAP. CERAMIC CHIP)	0.1UF GRM39Y5V104Z25V	5	SMD; C102.103.105.106.107
130B275Y(CAP. CERAMIC CHIP)	0.001UF GRM39COG102J50V	4	SMD; C304.305.306.307
05B1518Z(CHIP RESISTOR)	150 1/16W 5% T 1608	2	SMD; R203.204
05B1529Z(RES. CHIP)	1.5K 1/16W 5% 1608	1	SMD; R101
130B099Y(CAP. CERAMIC CHIP)	0.1UF GRM39X7R104K16V	1	SMD; C302
1302916(CAP. CERAMIC CHIP)	0.22UF GRM39X7R224K10V	1	SMD; C308
05B2229Z(RES. CHIP)	2.2K 1/16W 5% T 1608	1	SMD; R201
RESISTOR CHIP	240 1/16W 1% 1608	1	SMD; R102
05B4739Z(RES. CHIP)	47K 1/16W 5% 1608	4	SMD; R205.206.304.305
05B5615Z(RES. CHIP)	560 1/16W 5% 1608	1	SMD; R301
RESISTOR CHIP	MCR03 EZPFX6191 6.19K OHM	1	SMD; R302
RESISTOR CHIP	MCR03EZPFX7321 7.32K OHM	1	SMD; R303
IC REGULATOR	LM317D2TXM	1	SMD; IC101
1447298Z(CAP TANTALUM CHIP)	47UF 16V D 20%	2	SMD; C108.301
IC REGULATOR	MCP1702T-5002E/MB	1	SMD; IC102
IC CMC CHIP	MCP73862T-I/ML, QFN16	1	SMD; IC301
IC MCU	PIC16F677T-I/SS, SSOP20	1	SMD; IC201
DIODE RECTIFIER	S2A	2	SMD; D101.102
CHARGER PCB(SL-7402)	26.4X50.5X1.0T	1	SMD;
CONNECTOR PIN HEADER	GDH-5SBC 2.54PITCH ,STRAIGHT	1	SUB;
BATTERY ASSY(SL-7402)	BATTERY ASSY	1	
BATTERY COVER(SL-7402)	PC BLACK	1	SUB;
BATTERY PACK(SL-7402)	PC BLACK	1	SUB;
752821(CONTACT PLATE)	74X3XT0.15 NI-PLATE	3	SUB;
752958(TERMINAL)	BSP T1.2 GOLD-PLATING	5	SUB;
CUSHION BATTERY(SL7402)	56X40 RUBBER SPONG T1.5 STICKER	1	SUB;
BATTERY LI-Polymer(SL-7402)	HPP583273-01 7.4V 1500MAH	1	SUB;
TAPE TERMINAL B (SL-0305)	DOUBLE TAPE 3M 9448HK	1	SUB;
PCB BATT PACK ASSY(SL-7402)	80.0x166.2x1.0T,FR4, 2L, GOLD (10A)	1	SUB;
PCB BATT PACK1(SL-7402)*	33.0X15.5X1.0T	1	SUB;
PCB BATT PACK2(SL-7402)*	33.0X15.5X1.0T	1	SUB;
TAPE TERMINAL "A"(SL7402)	24X9.2 3M9448HK T0.16	1	SUB;
CUSHION EVA(SL7402)	30X4.5 EVA SPONG T2 STICKER	1	SUB;
LABEL BATTERY (SL7402)	P.E 0.15T	1	SUB;
COPPER SHEET (SL7402)	COPPER SHEET + DOUBLE TAPE	1	SUB;
PORTABLE CHARGER ASSY(SL-7402)	PORTABLE CHARGER ASSY	1	
UPPER CHARGER(SL-7402)	ABS BLACK	1	SUB;
BOTTOM CHARGER(SL-7402)	ABS BLACK	1	SUB;
894494(FOOT)	&10XT1.6 SILI.RUBB.BLK ST	4	SUB;
752866(TERMINAL)	PBP T0.3 NI-PLAT	3	SUB;
LABEL CHARGER (SL7402)	P.E T0.15	1	FIN;
621470(+TAPPING SCREW PH	T2.6X12-2S BLK	4	SUB;
BELT CLIP ASSY(SL-7402)	BALT CLIP ASSY	1	

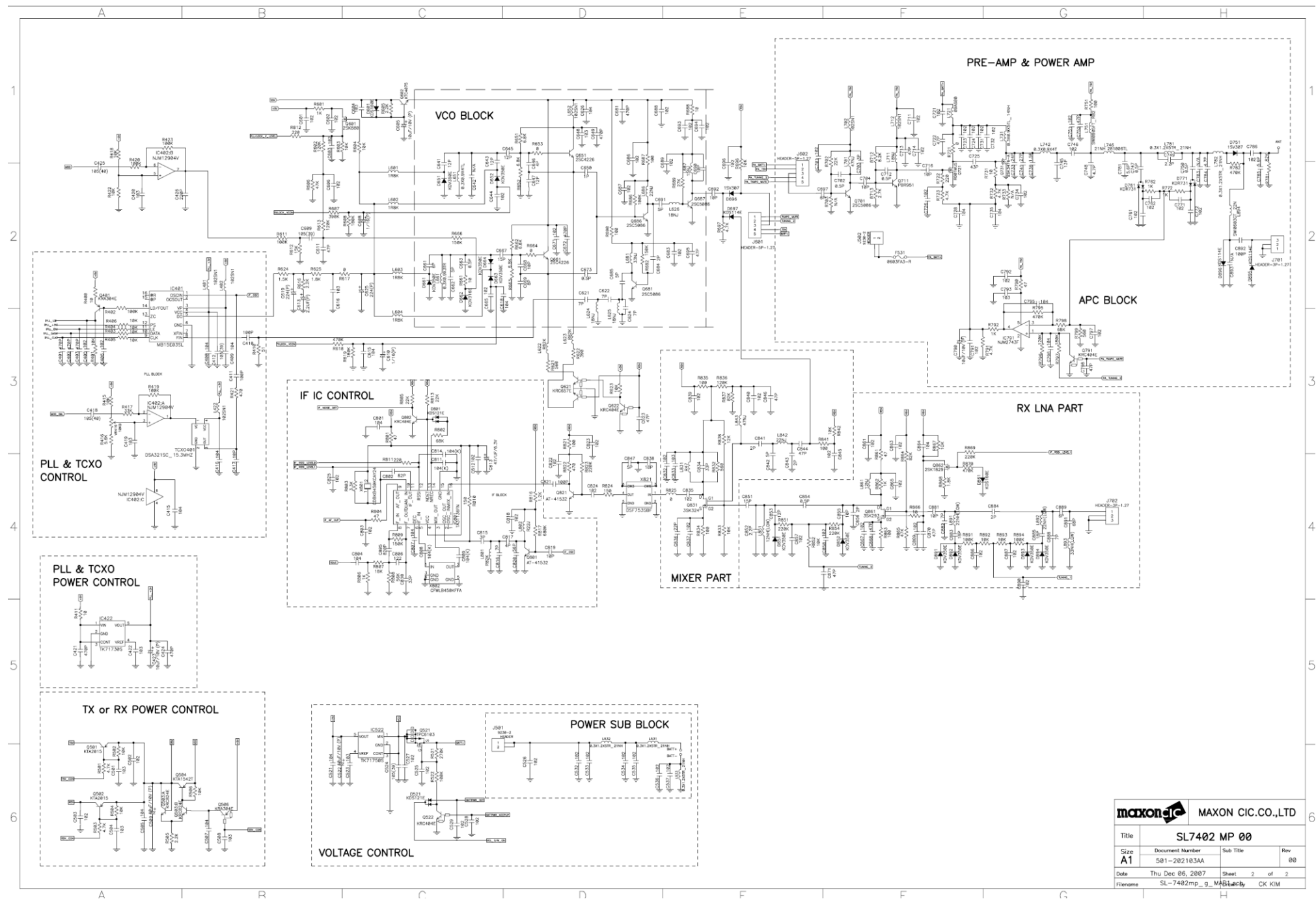
SL7000SERIES HAND HELD

SLIDE BELT(SL-7402)	PC BLACK	1	SUB;
BELT CLIP(SL-7402)	PC BLACK	1	SUB;
860177(PIN)	BSBM NI-PLATE(NSP-3200SKD)	1	SUB;
SPRING(SL-0305PMR)	SUS304 &1.2	1	SUB;
BRACKET BELT(SL-7402)	SUS304 0.4T	1	SUB;
PACKING ASSY(SL-7402)	PACKING ASSY	1	
PRODUCT DISPOSAL INSTRUCTIONS	WOOD PAPER A5	1	FIN;
LABEL NAME (SL7402)	PE T0.15 29.4X16.4	1	FIN;
LABEL BAR CODE (SL-0305PMR)	P.E T0.15 29.4X10.4	1	FIN;
MANUAL (SL-7402)	PAPER 100X152	1	FIN;
BOX GIFT(SL-7402)	SW1S 205(W)X212(D)X62(H)	1	FIN;
BOX OUT(SL-7402)	DW1E 410(W)X315(D)X217(H)	0.1	FIN;
DECLARATION SHEET(SL7102)	WOOD PAPER A5	1	FIN;
DECLARATION SHEET(SL7402)	WOOD PAPER A5	1	FIN;
920101S(POLYBAG AIR)	P.E 230X170	1	FIN;
921020E(POLYBAG)	P.E 100X200XT0.05	2	FIN;
PTT HOUSING ASSY(SL-7402)	PTT HOUSING ASSY	1	
PTT PAD(SL-7402)	SILICONE RUBBER	1	SUB;
PTT PLATE(SL-7402)	PP BLACK	1	SUB;
PTT HOUSING(SL-7402)	PC BLACK	1	SUB;
UPPER COVER(SL-7402)	PC BLACK	1	SUB;

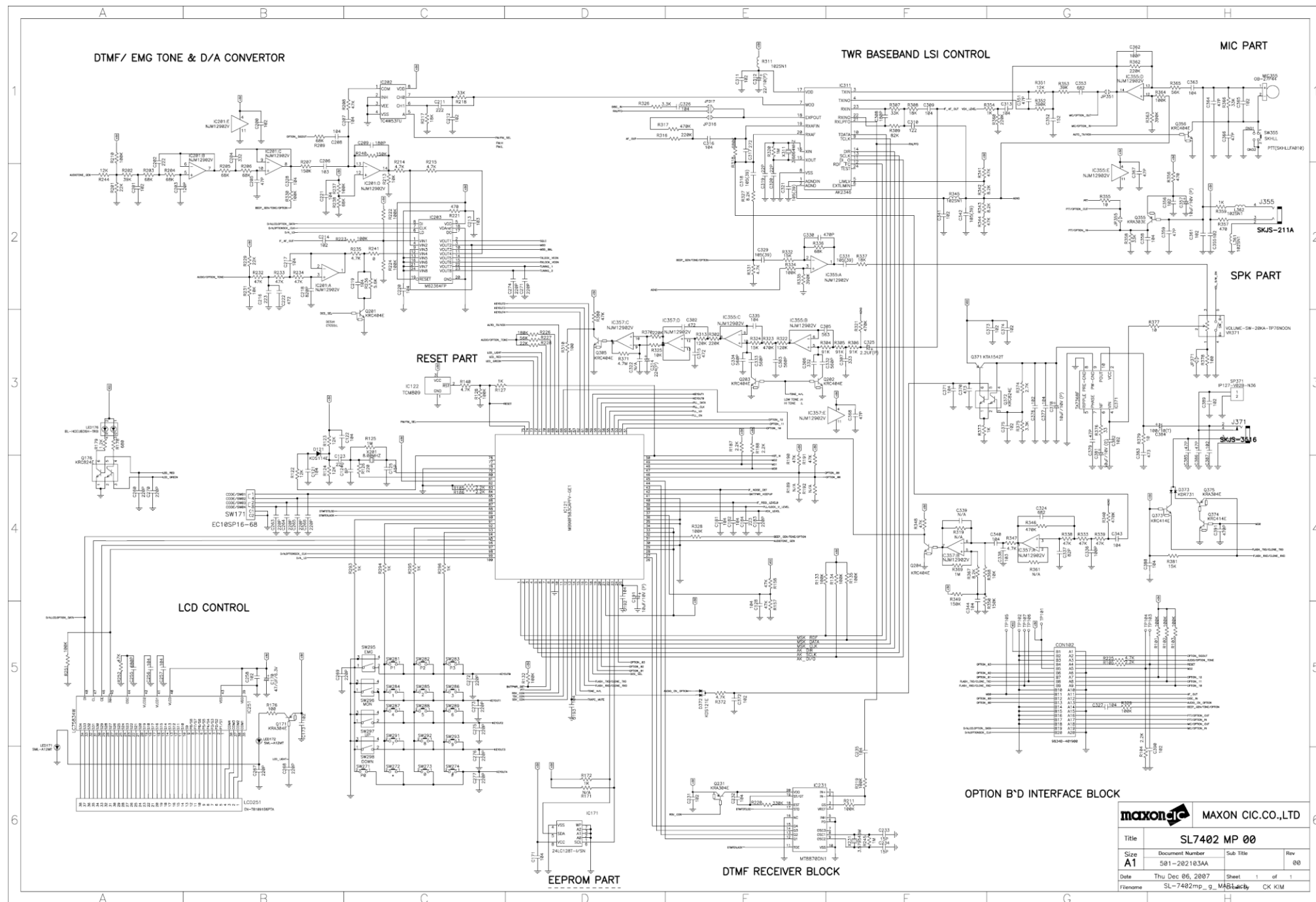
9. PCB LAYOUT AND CIRCUIT DIAGRAMS

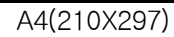
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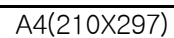
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/	/	/	MODEL	SL7402
MATERIAL	File Name			
	SCALE	A4	SHEET	2 OF 3

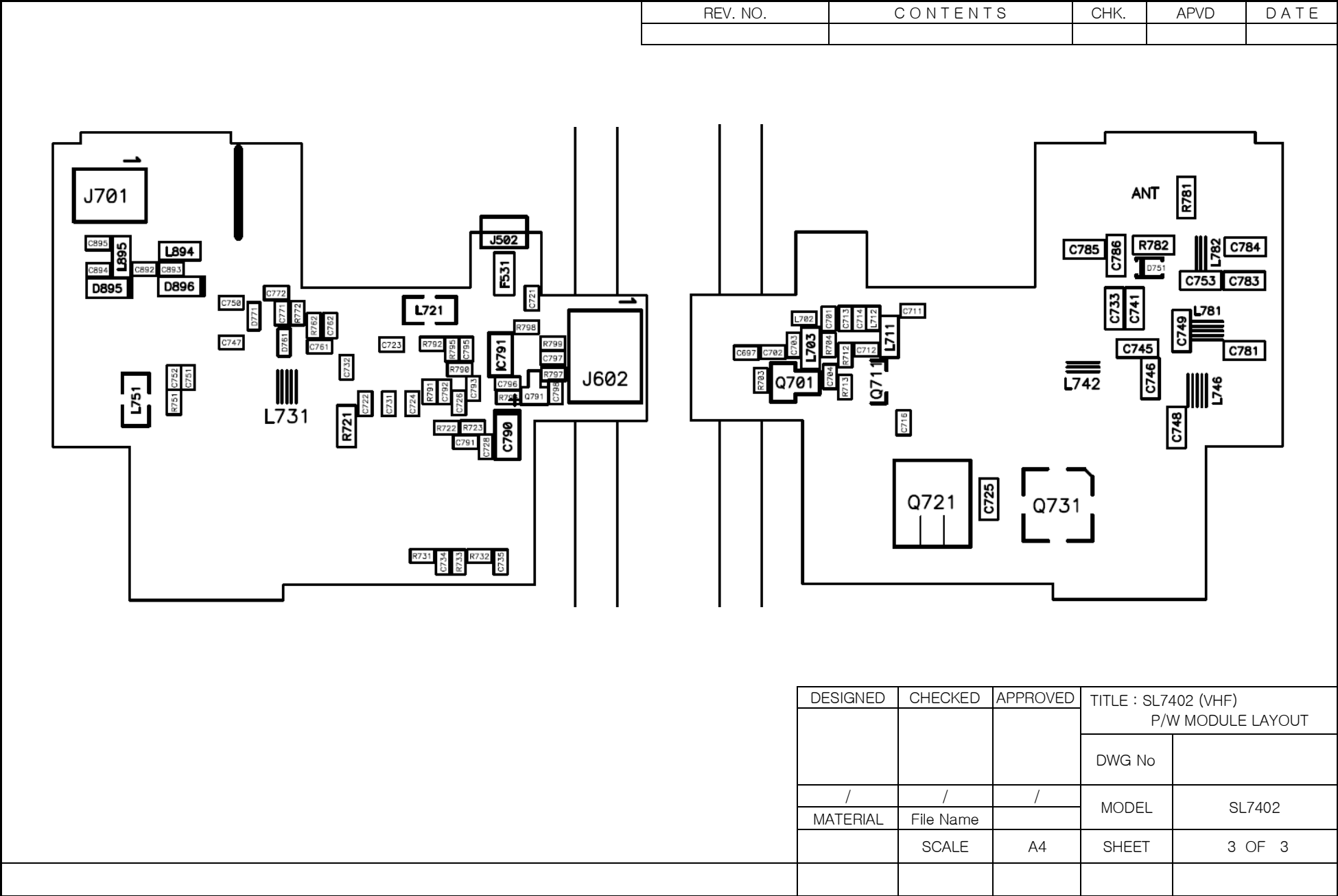


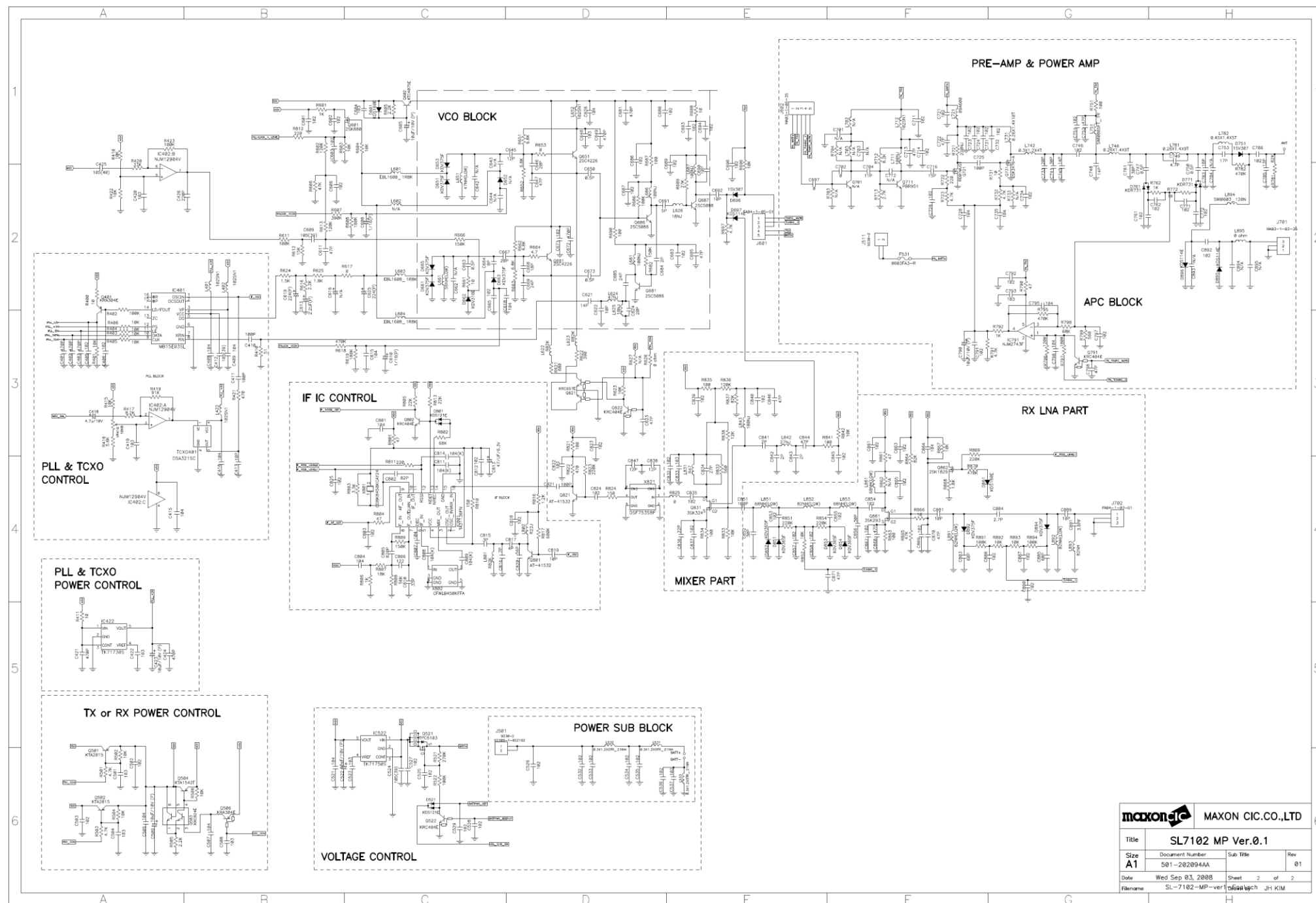
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Size A1	Document Number 501-202183AA	Sub Title	Rev 00
Date Thu Dec 06, 2007	Sheet 2 of 2		
Filename SL-7402mp_g_M81-6rly	CK KIM		



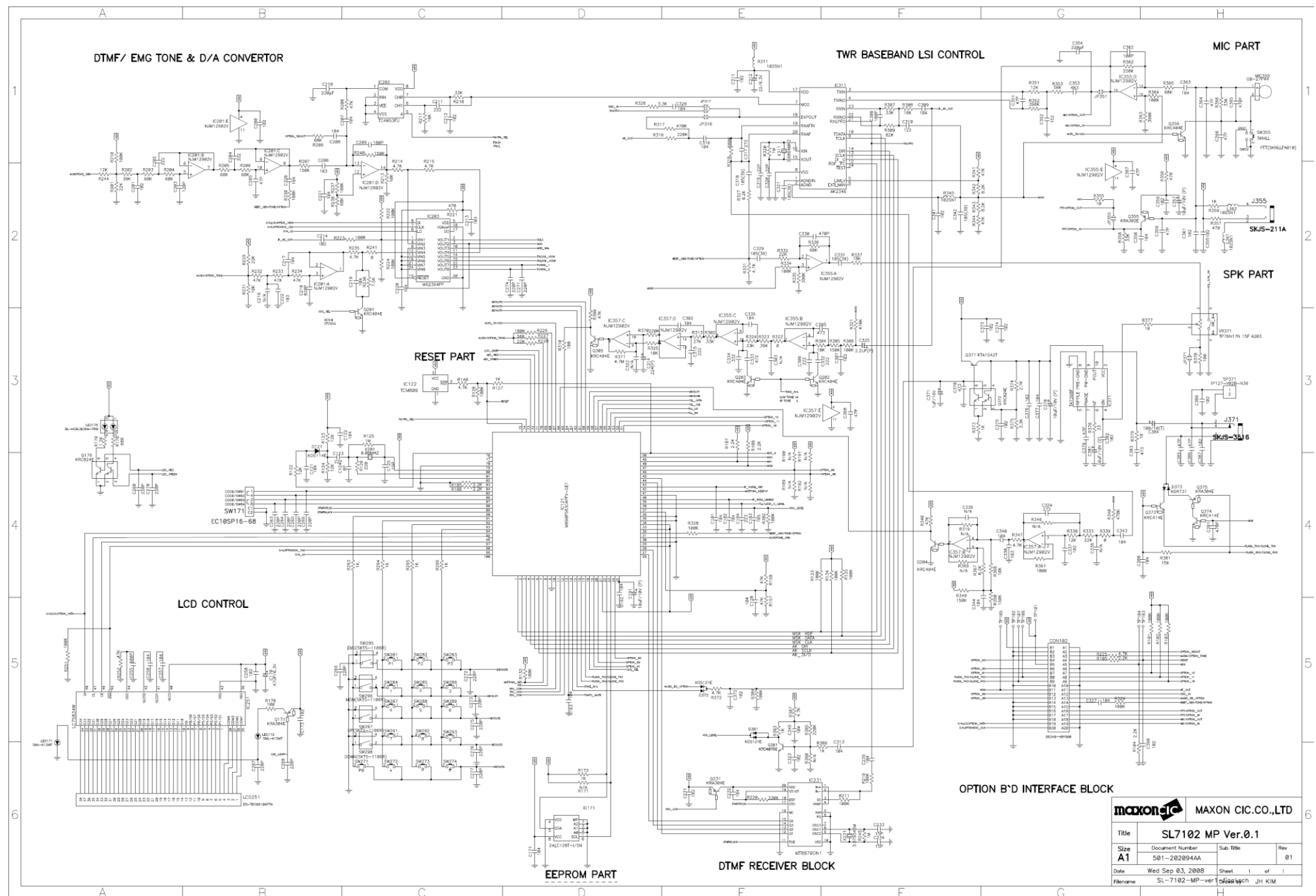








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Title	SL7102 MP Ver.0.1		
Size A1	Document Number 501-202094AA	Sub Title	Rev 01
Date Wed Sep 03, 2008	Sheet 2 of 2		
Filename SL-7102-MP-ver0.1	JH KIM		



 MAXON CIC.CO.,LTD			
Title	SL7102 MP Ver.0.1		
Size	Document Number	Sub Title	Rev
A1	501-282094AA		01
Date	Wed Sep 03, 2008	Sheet	1 of 1
Filename	SL-7102-MP-ver0.1	Drawn by	JH KIM

10. BLOCK DIAGRAM

SL/SP 7000 SERIES BLOCK DIAGRAM

