

# 디지털 휴대용 무전기

## DMR Portable Radio

SY4050, CT405, CT405A, CT405F (UHF Transceiver)

CT105, CT105B, CT105F (VHF Transceiver)

사용자 매뉴얼

User's Manual

Panduan pengguna



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**This radio equipment has been constructed so that it can operate in all member state in EU. And there are no restrictions of use.**

**“SamYoungCeletra. Co., Ltd. hereby declares that this product is in compliance with the essential requirements and other relevant provisions of the Radio Equipment Directive (2014/53/EU).”**

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## Informasi Hak Cipta

Pengkodean suara AMBE+2™ Teknologi yang diwujudkan dalam produk ini dilindungi oleh hak kekayaan intelektual termasuk hak paten, hak cipta dan rahasia dagang dari Digital Voice Systems, Inc. Teknologi pengkodean suara ini dilisensikan semata-mata untuk digunakan dalam Peralatan Komunikasi ini. Pengguna Teknologi ini secara eksplisit dilarang untuk mencoba mengekstraksi, menghapus, mendekompilasi, merekayasa balik, atau membongkar kode objek, atau dengan cara apa pun mengubah Kode Objek menjadi bentuk yang dapat dibaca manusia. Paten AS No. 8,595,002 B2, # 8,359,197, # 8,200,497, # 6,912,495 B2, # 6,199,037 B1, # 5,826,222, # 5,754,974, # 5,701,390, dan # 5,715,365.

## 1. 무전기 소개



No.	기능	No.	기능	No.	기능	No.	기능
1	PTT 버튼	6	스피커	11	되돌아가기 버튼	16	벨트 클립
2	측면버튼-1	7	LCD 표시창	12	마이크	17	배터리
3	측면버튼-2	8	메뉴/확인 버튼	13	전원/음량조절 노브	18	배터리 걸쇠
4	안테나	9	하향 버튼	14	비상 버튼		
5	LED 표시등	10	상향 버튼	15	액세서리 잭		


















## 2. 상태 표시



### 2.1 LED 표시

LED 표시등은 무전기의 운용상태를 쉽게 알아볼 수 있도록 표시합니다.

LED 표시등	무전기 운용 상태
초록색 점등	정상 수신
초록색 점멸	캐리어 수신
주황색 점멸	채널 스캔 중
적색 점등	정상 송신

### 2.2 LCD 표시

기능	아이콘	Radio Status
RSSI		수신 무선 신호의 세기
송신 출력 레벨		무전기가 저 출력으로 설정됨
		무전기가 고 출력으로 설정됨
동작모드		직접모드: 무전기간 직접 통신 운용 중
		중계기모드: 무전기가 중계기를 통한 통신 운용 중
스캔		스캔 설정채널을 자동 검색 중
		스캔 설정된 채널에서 동작을 감지
새 메시지		수신함에 새 메시지가 있음을 표시
녹음		녹음 기능을 사용하도록 설정됨
보안		음성 암호화 기능이 활성화 됨
배터리		배터리의 남은 충전량을 표시
지역(존)		존번호 표시
채널번호		선택된 채널번호 표시 ● 디지털 DMR채널 표시 "D"번호 (예, D009) ● 아날로그 채널 표시 "A"번호 (예, A001) ● 디지털/아날로그 혼용 채널의 표시 "M"번호 (예, M003)
호출		개별 호출 송신
		개별 호출 수신
		그룹 호출 송신
		그룹 호출 수신

		전체 호출 송신
		전체 호출 수신

### 3. 메뉴 안내

무전기의 작동/기능에 대한 자세한 사항은 아래 기술된 사항을 참조하십시오.

메뉴 선택과 확인은 **메뉴/확인** 버튼을 누른 후 메뉴 화면에서 **상향/하향** 버튼을 눌러 원하는 메뉴를 찾아 **메뉴/확인** 버튼을 누르면 선택됩니다. **되돌아가기** 버튼을 누르면 이전 메뉴 단계로 이동합니다.

1단계	2단계	3단계	비고
연락처	연락처 리스트		최대 32
메시지	읽 메시지	미리 저장된 문자 메시지 리스트	최대 10
		수신함	수신 메시지 리스트 전체 삭제
	발신함	송신 메시지 리스트	최대 10
		전체 삭제	
통화기록	발신호	개별 발신 통화기록 리스트	최대 10
		전체 삭제	
	수신호	개별 수신 통화기록 리스트	최대 10
		전체 삭제	
스캔	스캔 동작/정지	동작	
		정지	
	스캔리스트	스캔리스트	최대 10
존	존 번호 표시		최대 64
설정	무전기 설정	송신출력	고/저
		SQ 레벨(아날로그 모드 적용)	일반/오픈/엄격
		키패드 잠금	켜짐/꺼짐
		백라이트	꺼짐/켜짐/시간
		LED	꺼짐/켜짐
		톤/소리	꺼짐/켜짐
		음성녹음(디지털 송수신)	꺼짐/켜짐/녹음목록/포맷/시간설정
		언어	영어/한글
	무전기 정보	자기 번호	
		시리얼 번호	
		모델명	
		모델번호	
		주파수 범위	

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		소프트웨어 버전	
		하드웨어 버전	
		최종 프로그램 일자	



## 4. 기본동작

### 4.1 무전기 켜기/끄기

무전기의 전원/음량조절 노브를 시계방향으로 '딸깍' 소리가 날 때까지 돌립니다. LED 표시등이 주황색으로 켜지고 전원 켜짐을 표시하는 소리와 함께 LCD 에 홈 화면이 표시됩니다. 무전기를 끌 때는 전원/음량조절 노브를 시계 반대 방향으로 '딸깍' 소리가 날 때까지 돌립니다

### 4.2 음량조절

무전기의 전원/음량조절 노브를 시계방향으로 돌리면 음량이 커지고, 반시계방향으로 돌리면 작아집니다.

### 4.3 존 선택

존은 채널의 그룹을 의미합니다. 무전기는 최대 64 개 존을 지원하는데 각 존은 최대 16 개 채널을 포함 할 수 있습니다. 사용자는 아래와 같이 한 개의 존을 선택해야 됩니다;

- 메뉴: 메뉴 > 존 에서 상향/하향 버튼을 눌러 원하는 지역으로 변경하고, 메뉴/확인 버튼을 눌러 선택합니다
- 프로그램 버튼: 대리점에 의뢰하면 프로그램으로 측면 버튼을 이용하여 지역 선택을 할 수 있도록 설정해 드립니다.

### 4.4 채널 선택

선택한 존이 표시되면 상향/하향 버튼을 눌러 원하는 채널을 선택합니다.

참고: 본 무전기는 듀얼모드(디지털 DMR 채널 및 아날로그 채널)를 지원합니다. 선택된 채널의 모드를 구분하기 위해 채널 번호 앞에 영문자가 다음과 같이 표시됩니다.

- 디지털 DMR 채널: D(예, D009)
- 아날로그 채널: A(예, A001)
- 디지털/아날로그 혼용 채널: M(예, M003)

## 5. 호출서비스

무전기의 전원을 켜 상태에서 호출을 발신하거나 수신할 수 있습니다. 호출을 수신 할 때는 적당한 음량으로 음량조절 노브를 조절하고, 호출을 발신 할 때는 입과 무전기의 마이크 사이에 2.5 ~ 5 센티미터 거리 둡니다.

- **개별 호출**  
개별 사용자 사이의 호출입니다.
  
- **그룹 호출**  
개별 사용자와 사용자가 정의한 그룹과 사이의 호출입니다. 그룹의 멤버들 간에 서로 호출할 수 있습니다.
  
- **전체 호출**  
개별 사용자가 채널 내의 모든 사용자와 진행하는 일방 호출 입니다

### 5.1 각 채널에 미리 설정한 연락처를 통한 디지털 채널 호출

각 디지털 채널에 어떤 개별, 그룹 혹은 전체 호출을 할 것인지 대리점에 프로그램을 요청하여 미리 연락처를 설정할 수 있습니다.

- 1 미리호출 대상자가 프로그램된 채널을 선택합니다.
- 2 PTT 버튼을 누른 상태에서 통화합니다. 적색 LED 표시등이 켜집니다. LCD 표시창의 두 번째 줄에 개별/그룹/전체호출 아이콘과 함께 호출 착신측의 이름 혹은 번호가 표시됩니다.
- 3 무전기의 마이크에 명료하게 말합니다.
- 4 수신자는 어떤 조작 없이 호출을 수신할 수 있습니다. 호출을 수신하면 초록색 LED 표시등이 켜집니다. LCD 표시창의 두 번째 줄에 개별/그룹/전체 호출 아이콘과 함께 호출 발신측의 이름 혹은 번호가 표시됩니다
- 5 개별호출에 대하여 착신 대상자가 호출에 응답하지 않으면, 호출 실패 표시가 나타납니다.
- 6 호출을 수신할 때는 PTT 버튼을 누르지 않은 상태에서 듣습니다
- 7 일정시간 음성통화가 이어지지 않으면 호출이 종료됩니다

### 5.2 연락처 혹은 호출 기록을 통한 디지털 채널 호출

1. 호출을 원하는 채널을 선택합니다.
2. 메뉴 > 연락처 > 연락처 목록 혹은 메뉴 > 호출목록 > 착신/발신 호출목록 메뉴를 선택합니다.
3. 상향/하향 버튼을 눌러 착신 대상자를 선택합니다.
4. PTT 버튼을 누른 상태에서 통화합니다. 적색 LED 표시등이 켜집니다. LCD 표시창의 두 번째 줄에 개별 혹은 그룹 호출 아이콘과 함께 호출 착신측의 이름 혹은 번호가 표시됩니다.
5. 무전기의 마이크에 명료하게 말합니다.

6. 호출 수신자는 어떤 조작 없이 호출을 수신할 수 있습니다. 호출을 수신하면 초록색 LED 표시등이 켜집니다. LCD 표시창의 두 번째 줄에 개별 혹은 그룹 호출 아이콘과 함께 호출 발신측의 이름 혹은 번호가 표시됩니다.
7. 호출을 수신할 때는 PTT 버튼을 누르지 않은 상태에서 듣습니다
8. 일정시간 음성통화가 이어지지 않으면 호출이 종료됩니다

## 6. 무전기 운용 방법

### 6.1 채널 스캔

스캔 리스트에 등록된 채널들을 자동으로 옮겨가며 수신되는 신호가 있는지 검색합니다. 채널을 스캔하는 동안 주황색 LED 표시등이 느리게 점멸하며, LCD 표시창에 스캔 아이콘이 표시됩니다.

- 채널 스캔 기능을 활성화 하려면 메뉴 > 스캔 > 스캔 켜/끔 에서 '켜기'을 선택하고, 비활성화 하려면 '끄기'를 선택합니다. 또한 메뉴 > 스캔 > 스캔목록에서 스캔목록을 확인하거나 변경합니다.
- 프로그램 버튼: 대리점에 의뢰하여 측면버튼으로 채널 스캔 활성화/비활성화를 선택할 수 있도록 프로그램 할 수 있습니다.

### 6.2 비상 알람

비상 버튼을 누르면 비상 알람 모드로 진입하면서 LCD 표시창에 비상 알람모드가 표시됩니다. 비상 알람에 대한 승인이 수신되면, 긴급톤 경보음이 울리고 LCD 표시창에 "비상호출"이 표시됩니다. 만약 비상 알람 승인이 수신되지 않으면, LCD 표시창에 "호출 실패"가 표시됩니다.

### 6.3 킷 메시지

대리점에 의뢰하여 자주 사용하는 문자 메시지를 최대 10 개까지 미리 프로그램하여 단말기에 저장하고 있다가 선택한 문자 메시지를 송신할 수 있습니다.

1. 문자 메시지를 보내기 위해 메뉴 > 메시지 > 단축문자를 선택합니다.
2. 상향/하향 버튼을 눌러 원하는 메시지가 표시되도록 변경하고, 메뉴/확인 버튼을 눌러 해당 메시지를 선택합니다.
3. 표시된 연락처 목록에서 상향/하향 버튼을 눌러 원하는 연락처가 표시되도록 변경하고, 메뉴/확인 버튼을 눌러 해당 연락처를 선택합니다.
4. LCD 표시창에 메시지 전송 과정이 표시됩니다.

5. 메시지가 성공적으로 송신되면, 성공 알림음과 함께 LCD 표시창에 메시지 송신 완료가 표시됩니다.
6. 메시지 송신 실패가 발생하면, 송신 실패 알림음과 함께 LCD 표시창에 메시지 송신 실패가 표시됩니다.

## 6.4 연락처

대리점에 요청하거나 PC 소프트웨어를 직접 이용하여 개별 연락처 및 그룹 연락처 리스트, 각 연락처의 번호 및 이름 등을 무전기에 입력, 저장 및 관리 할 수 있습니다. 연락처는 통화 혹은 문자 메시지를 전송하거나 수신할 때 상대방을 지정하거나 확인하는데 사용됩니다.

## 6.5 메시지

수신함에서 수신된 메시지를 확인하고, 발신함에서 보낸 메시지를 확인합니다.

## 6.6 호출기록

최근에 수신 및 발신된 개별 호출 기록을 각각 최대 10 개까지 저장하여 표시합니다. 최근 호출기록이 남으며 오래된 호출 기록은 자동으로 지워집니다.

## 6.7 설정

### 6.7.1 무전기 설정

사용자의 필요 혹은 편의에 따라 아래와 같은 무전기의 설정을 변경하여 사용합니다.

- 송신 출력 레벨
- SQ 레벨 (참조, 아날로그 수신 모드만 적용)
- 키패드 잠금
- 백라이트
- LED 표시
- 톤/소리
- 음성녹음 (참조, 디지털 모드만 적용)
- 언어

### 6.7.2 무전기 정보

ID, 시리얼 번호, 모델명, 소프트웨어 버전 정보 등 무전기의 기본 정보를 확인 합니다.

## 7. 무전기 사양

### 7.1 일반사양

일반	세부 사양	비고
무선프로토콜	DMR, FM	
음성 코덱	AMBE+2™	
동작 주파수	VHF:136~174MHz	CT105, CT105B, CT105F
	UHF:400~470MHz	SY4050, CT405A, CT405F
채널 수	512	1024 (선택사양)
채널 간격	12.5kHz	
존	최대 64개	각 존의 최대 설정 채널 16개
스캔 리스트	최대 10개	각 리스트의 최대 설정 채널 16개
동작 전압	7.4V, 2,600mAh	Li-ion
동작 온도	-20°C~+50°C	
저장 온도	-30°C~+70°C	
안테나 임피던스	50Ω	RP-SAM(FCC) / SMA or RP-SMA(CE)
오디오 출력	≤1000mW@16Ω	
LCD	2 Line 그래픽 흑백 LCD	
ESD	IEC61000-4-2 level3	
IP 등급	IP54	기본모델
	IP68	선택사양
크기 (H*W*D)	105*51*33mm	안테나 제외
무게	270g	

### 7.2 송신기 사양

RF 출력	High: 5W (±1.5dB), Low: 2W (±1.5dB)
FM 험/잡음	40dB
전도/방사 스퓨리어스 방사	-36dBm < 1GHz, -30dBm > 1GHz
인접채널 누설전력	< -60dBc
과도전력 억제	> -50dBc
주파수 오차	±1.5ppm
오디오 왜곡	< 3%

### 7.3 수신기 사양

아날로그 감도	-121dBm
디지털 감도	-121dBm (5% BER)
상호변조	65dB
인접채널 선택도	60dB
스퓨리어스 응답	70dB
블로킹	84dB
힘/잡음	40dB
오디오 응답	+1/-3dB (300Hz~3kHz)
전도 스퓨리어스 방사	< -57dBm
오디오 출력	1W

## 1. Radio Overview



No.	Part Name	No.	Part Name	No.	Part Name	No.	Part Name
1	PTT Key	6	Speaker	11	Back Key	16	Belt Clip
2	Soft Key-1	7	LCD	12	Microphone	17	Battery
3	Soft Key-2	8	Menu/Enter/OK Key	13	Power/Volume Control Knob	18	Battery Latch
4	Antenna	9	Down Key	14	Emergency Alarm Key		
5	LED Indicator	10	Up Key	15	Accessory Jack		




















## 2. Status Indication

### 2.1 LED Indicator

The top LED indicator will help you easily identify the current radio status.

LED Indicator	Radio Status
Glows GREEN	Receiving, Call match
Blinks GREEN	Receiving, Carrier detected
Blinks ORANGE	Channel scanning
Glows RED	Transmitting

### 2.2 LCD Icons

Function	Icon	Radio Status
RSSI		The number of bars represents the radio signal strength
Tx Power Level		Low power level of the current channel
		High power level of the current channel
Operation Mode		Direct Mode(Talkaround) operation: Radios communicates with each other directly
		Repeater Mode operation: Radios communicates with each other via a repeater
Scan		Radio is under scanning channels
		Radio detects activity on a channel
Unread Message		Indicate the unread incoming message in Inbox
Voice Record		Indicate voice record mode(Digital only)
Secure		Privacy feature is enabled
Battery		The number of bars represents the charge remaining in battery
Zone		Indicates the current zone number
Channel		Indicates the current channel number of Dual-mode <ul style="list-style-type: none"> <li>• Digital DMR channel is displayed with D(ex, D009)</li> <li>• Analog channel is displayed with A(ex, A001)</li> <li>• Digital and Analog mixed channel is displayed with M(ex, M003)</li> </ul>
Call		Indicates Outgoing Individual Call
		Indicates Incoming Individual Call
		Indicates Outgoing Group Call
		Indicates Incoming Group Call
		Indicates Outgoing All Call
		Indicates Incoming All Call



### 3. Menu Navigation

The following menu list shows all the menus of the radio.

To select and confirm the options shown in the menu, press **Menu/Enter** key and then press **Up** or **Down** key to select your needed option, finally press **Menu/Enter** key. To move back the path of menu, press **Back** key.

1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	Remarks	
Contacts	List of Contacts		Max 32	
Messages	Quick Text	Message list in Quick Text	Max 10	
		Inbox	Message list in Inbox Delete All	Max 10
	Outbox	Message list in Outbox	Max 10	
		Delete All		
	Call Log	Outgoing	Call logs in Outgoing	Max 10
			Delete All	
Incoming		Call logs in Incoming	Max 10	
		Delete All		
Scan	Scan on/off	On		
		Off		
	Scan List	Scan list	Max 10	
Zone	List of Zones		Max 64	
Settings	Radio settings	Power Level	High/Low	
		SQ Level	Normal/Open/Tight	
		Keypad Lock	On/Off	
		Backlight	Off/On/Timed	
		LED	Off/On	
		Tone	Off/On	
		Voice Record(Digital mode Only)	Off/On/Play List/Format/Time set	
		Language	English/Korean	
	Radio Info	Radio Id		
		Serial Number		
		Model Name		
		Model Number		
		Freq. Range		
		SW Version		
		BB Version		
		Last Update		

## 4. Basic Operation

### 4.1 Power On/Off

Rotate the Radio **On-Off/Volume Control knob** clockwise until a click is heard to turn on the radio. The LED lights up solid red and the beeper indication is played.

To turn off the radio, rotate the same knob counterclockwise until a click is heard.

### 4.2 Adjust Speaker Volume

After turning on the radio, rotate the Radio **On-Off/Volume Control knob** clockwise to increase a speaker volume, or counterclockwise to decrease a speaker volume.

### 4.3 Selecting a zone

A zone is a group of channels. User can include a group of channels into a zone. The radio supports 32 zones, each of which consists of up to 16 channels. User can select a zone via one of the following ways;

- Via Menu: Go to Menu > Zone, press Up/Down key to select an appropriate zone, and then press the Menu/OK key to confirm the selection.
- Via Programmable key: User can toggle the appropriate zone by pressing the programmed Zone key preset by your dealer.

### 4.4 Selecting a Channel

Once the zone is selected, press **Up/Down** key to select a desired channel.

**Note:** "A" character prior on channel number indicates a conventional Analog channel and "D" character indicates a conventional Digital channel.

## 5. Call Services

After the radio is powered on, you can make and receive calls. To ensure optimal volume of the receiving radio, keep the microphone about 2.5 to 5 centimeters away from your mouth when transmitting.

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- **Individual call**

It is a voice call between an individual user and another individual user.

- **Group call**

It is a voice call between one individual user and a predefined group of users. All parties in the group can communicate with each other.

- **All call**

It is a one-way voice call from any user to all users on a channel.

User can initiate an individual call, group call or all call on a digital channel through the same operation.

### **5.1 Make a voice call on Digital channel through Preset contacts**

User may ask a dealer to preset a regular individual call, group call and all call contacts for each digital channel.

1. Select the channel with the active subscriber ID or alias.
2. Press and hold down PTT key to make a call. The LED lights up solid red. The second LCD line shows the outgoing individual/group/all call icon at the left corner and also shows the target user alias or number.
3. Speak clearly into the microphone.
4. The target user can receive the call without any operation. On receiving a call, The LED lights up solid green. The second LCD line shows the incoming individual/group/all call icon at the left corner and also shows the originating user alias or number.
5. If the target user does not respond the individual call in the confirmed mode, the radio will display an appropriate indication-Call Failure.
6. Release PTT key to listen.
7. If there is no voice activity for a predefined period of time(Call Hang Time), the call ends.

### **5.2 Make a voice call on Digital channel through Contacts or Call Log**

1. Select a channel.
2. Radio-1 accesses the Contacts list vis "Menu > Contacts > Contacts List" or "Menu > Call Log > Outgoing/Incoming".

Radio-1 press Up/Down key to select a target user, for example, Radio-2.

3. Radio-1 press and hold down PTT key to make a call. The LED lights up solid red. The second LCD line shows the outgoing individual/group call icon at the left corner and also shows the target user alias or number.
4. Radio-1 speak clearly into the microphone.
5. Radio-2 can receive the call without any operation. On receiving a call, The LED lights up solid green. The second LCD line shows the incoming individual/group call icon at the left corner and also shows Radio-1 user alias or number.
6. Release PTT key to listen.
7. If there is no voice activity for a predefined period of time(Call Hang Time), the call ends.

### **5.3 Make a voice call on Analog channel**

The call operation is same as on the digital channel but the called parties are all the users on the channel rather than the preset contacts for the channel due to no signaling on the analog channel.

## **6. Features and Operations**

### **6.1 Scanning channels**

The Scan feature allows you to listen to communication activities on other channels so that you can keep a close track of your team members. You can enable and disable the Scan feature, select and view the Scan List via the following operations:

- To enable the Scan feature, go to "Menu -> Scan -> Scan On/Off" and select "On". To view or select a scan list, go to "Menu -> Scan -> Scan List".
- In the Home screen user can press the programmed Scan key to turn scan on or off.

During scanning channel, The LED blinks red slowly and the scan icon is displayed on the first line of LCD.

### **6.2 Sending an emergency alarm**

Press Emergency key to activate emergency alarm mode. The Emergency icon appears in LCD. When Emergency alarm acknowledgement is received, the Emergency tone sounds and the LCD shows "SOS Sent".

---

If the radio doesn't receive an Emergency alarm acknowledgement and after all retries have been exhausted, a tone sounds and the LCD shows "SOS Fail".

The radio exits the Emergency Alarm mode and returns to the Home screen in the predefined period by CPS.

### 6.3 Sending a Quick text message

The radio supports a maximum of 10 Quick Text messages which are preset by a dealer or CPS S/W.

1. User can select a Quick Text message by going to "Menu > Messages > Quick Text".
2. Press Up/Down key to the required Quick Text and press **Menu/Enter** key to select.
3. Press Up/Down key to the required alias or ID of Contacts and press **Menu/Enter** key to select.
4. The LCD shows the progress of sending a message.
5. If the message is sent, a tone sounds and the LCD shows a positive notice, "Send Success".
6. If the message is not sent, a tone sounds and the LCD shows a negative notice, "Send Fail".

### 6.4 Contacts

You can manage the contacts via the "Contacts" menu. The Contacts is used to save the Call Alias (name), Call ID of Private Call and Group Call contacts which is preset by a dealer or CPS(PC S/W.) In the "Contacts" menu, you can check the detailed contact information (such as Call ID).

### 6.5 Messages

In the Inbox, you can read all received messages, and in the Outbox, you can also read all sent messages.

### 6.6 Call Log

The radio keeps track of all recent outgoing and incoming calls.

It can store up to 10 call logs. When the Call Log is full, the earliest call log will be overwritten by the latest one automatically.

### 6.7 Settings

### 6.7.1 Radio Settings

User can optimize the operation of your radio via the following configuration according to your actual needs and preferences.

- Tx Power Level
- SQ Level(note, applicable in Analog FM mode only)
- Keypad Lock
- Backlight
- LED
- Tones
- Voice Record
- Language

### 6.7.2 Radio Info

User can check the basic information of the radio, including Radio Own Id, Serial Number, Model Name, SW Version, BB Version, etc.

## 7. Specifications

### 7.1 General

General	Description	Remark
Radio Protocols	DMR, FM	
Audio CODEC	AMBE+2™	
Operating Frequency Range	VHF: 136~174MHz	CT105, CT105B, CT105F
	UHF: 400~470MHz	SY4050, CT405A, CT405F
Channel Capacity	512	1024 (Option)
Channel Spacing	12.5kHz	
Zone	Max 64 zones, Max 16 channels per zone	
Scan List	Max 10 scan lists, Max 16 channels per list	
Battery	7.4V, 2,600mAh	Li-ion
Operating temperature	-20°C ~ 50°C	
Store temperature	-30°C ~ 70°C	

Antenna Impedance	50Ω	RP-SAM(FCC) / SMA or RP-SMA(CE)
Audio Output	≤1000mW@16Ω	
Display	2 lines BW graphic LCD	
ESD	IEC61000-4-2 Level 3	
IP Grade	IP54	Normal
	IP68	Option
Dimension (H x W x D)	105 x 51 x 33 [mm]	Not including antenna
Weight (g)	270 [g]	Including Battery

### 7.2 Transmitter

RF Output Power	High: 5W (±1.5dB), Low: 2W (±1.5dB)
FM Hum and Noise	40dB
Conducted/Radiated Emission	-36dBm < 1GHz, -30dBm > 1GHz
Adjacent Channel Power	< -60dBc
Transient Power Suppression	> -50dBc
Frequency Error	±1.5ppm
Audio Distortion	< 3%

### 7.3 Receiver

Analog Sensitivity	-121dBm
Digital Sensitivity	-121dBm (5% BER)
Intermodulation	65dB
Adjacent Channel Selectivity	60dB
Spurious Rejection	70dB
Blocking	84dB
Hum and Noise	40dB
Audio Response	+1/-3dB (300Hz~3kHz)
Conducted Spurious Emission	< -57dBm
Audio Power Output	1Watt

## 1. Ikhtisar Radio



No.	Bagian nama	No.	Bagian nama	No.	Bagian nama	No.	Bagian nama
1	PTT Key	6	Speaker	11	Back Key	16	Belt Clip
2	Soft Key-1	7	LCD	12	Microphone	17	Battery
3	Soft Key-2	8	Menu/Enter/OK Key	13	Power/Volume Control Knob	18	Battery Latch
4	Antenna	9	Down Key	14	Emergency Alarm Key		
5	LED Indicator	10	Up Key	15	Accessory Jack		






















## 2. Indikasi Status

### 2.1 LED indicator

Indikator LED atas akan membantu Anda mengidentifikasi dengan mudah status radio saat ini.

LED indicator	Status Radio
Bersinar GREEN	Menerima, Memanggil pertandingan
berkedip GREEN	Menerima, Operator terdeteksi
berkedip ORANGE	Pemindaian saluran
Bersinar RED	Mengirim

### 2.2 LCD Icons

Fungsi	Ikon	Status Radio
RSSI		Jumlah batang mewakili kekuatan sinyal radio
Tx Power Level		Tingkat daya rendah dari saluran saat ini
		Tingkat daya tinggi dari saluran saat ini
Operation Mode		Direct Mode(Talkaround) operation: Radio berkomunikasi satu sama lain secara langsung
		Repeater Mode operation: Radio berkomunikasi satu sama lain melalui repeater
Scan		Radio berada di bawah saluran pemindaian
		Radio mendeteksi aktivitas di saluran
Unread Message		Tunjukkan pesan masuk yang belum dibaca di Inbox
Voice Record		Tunjukkan mode rekam suara (Khusus digital)
Secure		Fitur privasi diaktifkan
Battery		Jumlah batang menunjukkan sisa muatan dalam baterai
Zone		Menunjukkan nomor zona saat ini
Channel		Menunjukkan nomor saluran saat ini dari Mode Ganda <ul style="list-style-type: none"> <li>• Saluran DMR Digital ditampilkan dengan D (ex, D009)</li> <li>• Saluran analog ditampilkan dengan A (ex, A001)</li> <li>• Saluran campuran digital dan analog ditampilkan dengan M (ex, M003)</li> </ul>
Call		Menunjukkan Panggilan Individu Keluar
		Menunjukkan Panggilan Individu Masuk
		Menunjukkan Panggilan Grup Keluar
		Menunjukkan Panggilan Grup Masuk
		Menunjukkan Semua Panggilan Keluar
		Menunjukkan Semua Panggilan Masuk

### 3. Navigasi Menu

Daftar menu berikut menunjukkan semua menu radio.

Untuk memilih dan mengkonfirmasi opsi yang ditampilkan di menu, tekan tombol **Menu / Enter** dan tekan tombol Naik atau Turun untuk memilih opsi yang Anda perlukan, akhirnya tekan tombol **Menu / Enter**. Untuk kembali ke jalur menu, tekan tombol **Back**.

1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	Remarks
Contacts	List of Contacts		Max 32
Messages	Quick Text	Message list in Quick Text	Max 10
		Message list in Inbox	Max 10
	Inbox	Delete All	
		Message list in Outbox	Max 10
Outbox	Delete All		
	Outgoing	Call logs in Outgoing	Max 10
Delete All			
Call Log	Incoming	Call logs in Incoming	Max 10
		Delete All	
Scan	Scan on/off	On	
		Off	
	Scan List	Scan list	Max 10
Zone	List of Zones		Max 64
Settings	Radio settings	Power Level	High/Low
		SQ Level	Normal/Open/Tight
		Keypad Lock	On/Off
		Backlight	Off/On/Timed
		LED	Off/On
		Tone	Off/On
		Voice Record(Digital mode Only)	Off/On/Play List/Format/Time set
		Language	English/Korean
	Radio Info	Radio Id	
		Serial Number	
		Model Name	
		Model Number	
		Freq. Range	
		SW Version	
		BB Version	
Last Update			

## 4. Operasi dasar

### 4.1 Hidupkan / Matikan

Putar tombol Radio On-Off / Kontrol Volume searah jarum jam hingga terdengar bunyi klik untuk menyalakan radio. Lampu LED menyala merah pekat dan indikasi pager diputar.

Untuk mematikan radio, putar kenop yang sama berlawanan arah jarum jam sampai terdengar bunyi klik.

### 4.2 Adjust Speaker Volume

Setelah menyalakan radio, putar kenop Radio On-Off / Volume Control searah jarum jam untuk menambah volume speaker, atau berlawanan arah jarum jam untuk mengurangi volume pengeras suara.

### 4.3 Selecting a zone

Zona adalah sekelompok saluran. Pengguna dapat memasukkan sekelompok saluran ke dalam zona. Radio mendukung 32 zona, yang masing-masing terdiri dari hingga 16 saluran. Pengguna dapat memilih zona melalui salah satu cara berikut;

- Via Menu: Buka Menu> Zona, tekan tombol Atas / Bawah untuk memilih zona yang sesuai, lalu tekan tombol Menu / OK untuk mengonfirmasi pilihan.
- Via Kunci yang dapat diprogram: Pengguna dapat mengaktifkan zona yang sesuai dengan menekan tombol preset Zona terprogram oleh dealer Anda.

### 4.4 Selecting a Channel

Setelah zona dipilih, tekan tombol Atas / Bawah untuk memilih saluran yang diinginkan.

Catatan: Karakter "A" sebelum nomor saluran menunjukkan saluran Analog konvensional dan karakter "D" menunjukkan saluran Digital konvensional.

## 5. Call Services

Setelah radio dihidupkan, Anda dapat membuat dan menerima panggilan. Untuk memastikan volume radio penerima yang optimal, jauhkan mikrofon sekitar 2,5 hingga 5 sentimeter dari mulut Anda saat transmisi.

- **Individual call**

Ini adalah panggilan suara antara pengguna individu dan pengguna individu lainnya.

- **Group call**

Ini adalah panggilan suara antara satu pengguna individu dan kelompok pengguna yang telah ditentukan sebelumnya. Semua pihak dalam grup dapat berkomunikasi satu sama lain.

- **All call**

Ini adalah panggilan suara satu arah dari semua pengguna ke semua pengguna di saluran.

Pengguna dapat memulai panggilan individu, panggilan grup atau semua panggilan pada saluran digital melalui operasi yang sama.

### **5.1 Buat panggilan suara di saluran Digital melalui kontak Preset**

Pengguna dapat meminta dealer untuk mengatur panggilan individual, grup panggilan dan semua kontak panggilan untuk setiap saluran digital.

1. Pilih saluran dengan ID pelanggan atau alias aktif.
2. Tekan dan tahan tombol PTT untuk melakukan panggilan. Lampu LED menyala merah pekat. Garis LCD kedua menunjukkan ikon keluar individu / grup / semua panggilan di sudut kiri dan juga menunjukkan alias atau nomor target pengguna.
3. Bicaralah dengan jelas ke mikrofon.
4. Pengguna target dapat menerima panggilan tanpa operasi apa pun. Saat menerima panggilan, Lampu LED menyala hijau terang. Garis LCD kedua menunjukkan ikon panggilan individu / kelompok / semua yang masuk di sudut kiri dan juga menunjukkan alias atau nomor pengguna yang berasal.
5. Jika pengguna target tidak menanggapi panggilan individu dalam mode yang dikonfirmasi, radio akan menampilkan indikasi-Kegagalan Panggilan yang sesuai.
6. Lepaskan tombol PTT untuk mendengarkan.
7. Jika tidak ada aktivitas suara untuk jangka waktu yang telah ditentukan (Call Hang Time), panggilan akan berakhir.

### **5.3 Buat panggilan suara di saluran Digital melalui Kontak atau Log Panggilan**

1. Pilih saluran.
2. Radio-1 mengakses daftar Kontak vis "Menu> Kontak> Daftar Kontak" atau "Menu> Log Panggilan> Keluar / Masuk".  
Radio-1 tekan tombol Atas / Bawah untuk memilih pengguna target, misalnya, Radio-2.

3. Radio-1 tekan dan tahan tombol PTT untuk melakukan panggilan. Lampu LED menyala merah pekat. Garis LCD kedua menunjukkan ikon panggilan individu / grup yang keluar di sudut kiri dan juga menunjukkan alias atau nomor target pengguna.
4. Radio-1 berbicara dengan jelas ke mikrofon.
5. Radio-2 dapat menerima panggilan tanpa operasi apa pun. Saat menerima panggilan, Lampu LED menyala hijau terang. Garis LCD kedua menunjukkan ikon panggilan individu / kelompok yang masuk di sudut kiri dan juga menunjukkan alias atau nomor pengguna Radio-1.
6. Lepaskan tombol PTT untuk mendengarkan.
7. Jika tidak ada aktivitas suara untuk jangka waktu yang telah ditentukan (Call Hang Time), panggilan akan berakhir.

### **5.3 Buat panggilan suara di saluran Analog**

Operasi panggilan sama seperti pada saluran digital tetapi pihak yang disebut adalah semua pengguna di saluran daripada kontak yang telah ditetapkan untuk saluran karena tidak ada sinyal pada saluran analog.

## **6. Fitur dan Operasi**

### **6.1 Memindai saluran**

Fitur Pindai memungkinkan Anda untuk mendengarkan aktivitas komunikasi di saluran lain sehingga Anda dapat tetap melacak anggota tim Anda. Anda dapat mengaktifkan dan menonaktifkan fitur Pindai, memilih dan melihat Daftar Pindai melalui operasi berikut:

- Untuk mengaktifkan fitur Pindai, pergi ke "Menu -> Pindai -> Pindai Aktif / Nonaktif" dan pilih "Aktif". Untuk melihat atau memilih daftar pindai, buka "Menu -> Pindai -> Daftar Pindai".
- Di layar Awal pengguna dapat menekan tombol Pindai terprogram untuk mengaktifkan atau menonaktifkan pemindaian.

Selama saluran pemindaian, LED berkedip merah perlahan dan ikon pindai ditampilkan pada baris pertama LCD.

### **6.2 Mengirimkan alarm darurat**

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Tekan tombol Darurat untuk mengaktifkan mode alarm darurat. Ikon Darurat muncul dalam LCD. Ketika pengakuan alarm darurat diterima, nada Darurat berbunyi dan LCD menunjukkan "SOS Terkirim".

Jika radio tidak menerima pemberitahuan alarm Darurat dan setelah semua percobaan ulang telah habis, nada akan berbunyi dan LCD menunjukkan "SOS Gagal".

Radio keluar dari mode Alarm Darurat dan kembali ke layar Utama pada periode yang ditentukan oleh CPS.

### **6.3 Mengirim pesan teks Cepat**

Radio mendukung maksimal 10 pesan teks cepat yang disetel oleh dealer atau CPS S/W.

1. Pengguna dapat memilih pesan Teks Cepat dengan masuk ke "Menu> Pesan> Teks Cepat".
2. Tekan tombol Atas / Bawah ke Teks Cepat yang diperlukan dan tekan tombol Menu / Enter untuk memilih.
3. Tekan tombol Atas / Bawah ke alias atau ID Kontak yang diperlukan dan tekan tombol Menu / Enter untuk memilih.
4. LCD menunjukkan kemajuan pengiriman pesan.
5. Jika pesan terkirim, nada akan berbunyi dan LCD menunjukkan pemberitahuan positif, "Kirim Sukses".
6. Jika pesan tidak terkirim, nada akan berbunyi dan LCD menunjukkan pemberitahuan negatif, "Kirim Gagal".

### **6.4 Contacts**

Pengguna dapat mengelola kontak melalui menu "Kontak". Kontak digunakan untuk menyimpan Call Alias (nama), Call ID dari Panggilan Pribadi dan kontak Panggilan Grup yang diatur oleh dealer atau CPS (PC S/W).

Di menu "Kontak", Anda dapat memeriksa informasi kontak mendetail (seperti Call ID).

### **6.5 Messages**

Di Kotak Masuk, Anda dapat membaca semua pesan yang diterima, dan di Kotak Keluar, Anda juga dapat membaca semua pesan terkirim.

### **6.6 Call Log**

Radio melacak semua panggilan keluar dan masuk terakhir.

Dapat menyimpan hingga 10 log panggilan. Ketika Call Log penuh, log panggilan paling awal akan ditimpa oleh yang terakhir secara otomatis.

## 6.7 Settings

### 6.7.1 Radio Settings

Pengguna dapat mengoptimalkan pengoperasian radio Anda melalui konfigurasi berikut sesuai dengan kebutuhan dan preferensi Anda yang sebenarnya.

- Tx Power Level
- Tingkat SQ (catatan, berlaku dalam mode Analog FM saja)
- Kunci Keypad
- Lampu latar
- LED
- Nada
- Rekam Suara
- Bahasa

### 6.7.2 Radio Info

Pengguna dapat memeriksa informasi dasar radio, termasuk Radio Own Id, Nomor Seri, Nama Model, Versi SW, Versi BB, dll.

## 7. Specifications

### 7.1 General

General	Description	Remark
Radio Protocols	DMR, FM	
Audio CODEC	AMBE+2™	
Operating Frequency Range	VHF: 136~174MHz	CT105, CT105B, CT105F
	UHF: 400~470MHz	SY4050, CT405A, CT405F
Channel Capacity	512	1024(Optional)
Channel Spacing	12.5kHz	
Zone	Max 64 zones, Max 16 channels per zone	
Scan List	Max 10 scan lists, Max 16 channels per list	

Battery	7.4V, 2,600mAh	Li-ion
Operating temperature	-20°C ~ 50°C	
Store temperature	-30°C ~ 70°C	
Antenna Impedance	50Ω	RP-SMA
Audio Output	≤1000mW@16Ω	
Display	2 lines BW graphic LCD	
ESD	IEC61000-4-2 Level 3	
IP Grade	IP54	Normal
	IP68	Option
Dimension (H x W x D)	105 x 51 x 33 [mm]	Not including antenna
Weight (g)	270 [g]	Including Battery

### 7.2 Transmitter

RF Output Power	High: 4.8 W (±1.5dB), Low: 2W (±1.5dB)
FM Hum and Noise	40dB
Conducted/Radiated Emission	-36dBm < 1GHz, -30dBm > 1GHz
Adjacent Channel Power	< -60dBc
Transient Power Suppression	> -50dBc
Frequency Error	±1.5ppm
Audio Distortion	< 3%

### 7.3 Receiver

Analog Sensitivity	-121dBm
Digital Sensitivity	-121dBm (5% BER)
Intermodulation	65dB
Adjacent Channel Selectivity	60dB
Spurious Rejection	70dB
Blocking	84dB
Hum and Noise	40dB
Audio Response	+1/-3dB (300Hz~3kHz)
Conducted Spurious Emission	< -57dBm
Audio Power Output	1Watt



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## Attention in case of Use

This transceiver works on frequencies which are not generally permitted.

For frequency allocation, apply for a license at your local spectrum management authority.

For actual usage contact your dealer or sales shop in order to get your transceiver adjusted to the allocated frequency range.

## Important Notice for North American Users Regarding 406 MHz Guard Band

The U.S. Coast Guard and National Oceanographic and Atmospheric Administration have requested the cooperation of the U.S. Federal Communications Commission in preserving the integrity of the protected frequency range 406.0 to 406.1 MHz, which is reserved for use by distress beacons. Do not attempt to program this apparatus, under any circumstances, for operation in the frequency range 406.0 - 406.1 MHz if the apparatus is to be used in or near North America.

**Warning - Frequency band 406 - 406.1 MHz is reserved for use ONLY as a distress beacon by the US Coast Guard and NOAA. Under no circumstance should this frequency band be part of the preprogrammed operating frequencies of this radio.**

## Warning! FCC RF Exposure Requirements

This Radio has been tested and complies with the Federal Communications Commission (FCC) RF exposure limits for Occupational Use/Controlled exposure environment. In addition, it complies with the following Standards and Guidelines:

- FCC 96-326, Guidelines for Evaluating the Environmental Effects of Radio-Frequency Radiation.
- FCC 47C.F.R 2.1091, 2.1093, 1.1310, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
- ANSI/IEEE C95.1-1992, IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 300 GHz.

ANSI/IEEE C95.3-1992, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields-RF and Microwave.

**WARNING:** This radio generates RF electromagnetic energy during transmit mode. This radio is designed for and classified as *Occupational Use Only*, meaning it must be used only during the course of employment by individuals aware of the hazards, and the ways to minimize such

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hazards. This radio is not intended for use by the **General Population** in an uncontrolled environment.

## Operational Instructions and Training Guidelines

**CAUTION: To ensure that your exposure to RF electromagnetic energy is within the FCC allowable limits for occupational use, always adhere to the following guidelines:**

- Please read this manual carefully to become familiar with the features of this transceiver.
- Do not transmit the radio without an antenna connected.
- This radio is NOT approved for use by the general population in an uncontrolled environment. This radio is restricted to occupational use, work related operations only where the radio operator must have the knowledge to control its RF exposure conditions.
- When transmitting, hold the radio in a vertical position with its microphone 1 to 2 inches (2.5 to 5 cm) away from your mouth and keep the antenna at least 1 inch (2.5cm) away from your head and body.
- The radio must be used with a maximum operating duty cycle not exceeding 50 %, in typical Push-to-Talk (PTT) configurations. DO NOT transmit for more than 50 % of total radio use time (50 % duty cycle). Transmitting more than 50 % of the time can cause FCC RF exposure compliance requirements to be exceeded.

The radio is transmitting when the red LED on the top of the radio is illuminated. You can cause the radio to transmit by pressing the PTT button.

- When operate the radio with the belt-clip, make the transmission time as short as possible, to keep the Body Worn configuration.
- Battery Pack shall not be exposed to excessive heat such as sunshine, fire or the like.
- Always use Samyoung Celetra Inc. authorized accessories.
- RF exposure compliance is limited to the specific belt-clip and accessory configurations as documented in this filing and the separation distance between user and the device or its antenna for in-front-of-face operation shall be at least 2.5 cm.

The information listed above provides the user with the information needed to make him or her aware of RF exposure, and what to do to assure that this radio operates with the FCC RF exposure limits of this radio.

## Electromagnetic Interference/Compatibility

During transmissions, this radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so.

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Do not operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, health care facilities, aircraft, and blasting sites.

### **FCC License Information**

This radio operates on communications frequencies which are subject to FCC (Federal Communications Commission) Rules and Regulations. FCC Rules require that all operators using Private Land Mobile radio frequencies obtain a radio license before operating their equipment.

### **FCC Information**

For a Class B digital device or peripheral:

the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**CAUTION: Changes or modifications to this transceiver, not expressly approved by Samyoung Celetra Inc. could void your authority to operate this transceiver under FCC regulations.**

## 삼영셀레트라(주) 무전기 제품 보증 및 책임의 제한

### 1. 품질보증 대상 및 기간

삼영셀레트라(주) 가 생산한 무전기 제품(이하 "제품") 이 정상적으로 사용될 경우 구매일로부터 아래 제시된 기간 동안 재질 및 제조공정상의 결함이 없을 것임을 보증합니다.

제품: 1 년

액세서리 (배터리, 안테나, 충전기, 어댑터, 벨트 클립): 6 개월

### 2. 품질보증의 제한사항 (유상처리기준)

※ 보증기간 이내라고 하더라도 다음과 같은 사유에 해당되는 경우에는 수리 실비에 해당하는 요금을 청구할 수 있습니다.

- 품질 보증서에 기재한 내용이 사실과 다른 경우
- 천재지변 또는 사용자의 부주의나 과실에 의한 고장
- 제품의 개조, 임의 분해, 훼손, 변용 등에 의한 고장
- 당사가 지정한 A/S 센터가 아닌 곳에서 수리를 받은 경우
- 제품 시리얼 스티커가 심하게 훼손되었거나 떨어져 시리얼 번호를 확인할 수 없는 경우
- 정상적이며 일상적인 마모 및 손상
- 제품의 소프트웨어나 펌웨어를 불법적으로 또는 승인 받지 않고 변경한 경우
- 소모품이 소모되어 교환을 필요로 하는 경우

### 3. 보증서비스 이용 방법

보증서비스 신청 시 구입증서를 제출해야 하며(구입일과 제품 일련번호 포함) 인증된 보증 서비스센터에 제품을 접수 해야 합니다.

판매처:

구입일:

제품 일련번호

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## Samyoung Celetra Inc.

### Warranty and liability limitation

#### 1. Quality Assurance Object and Period

(Hereinafter referred to as "Product") manufactured by Samyoung Celetra Co., Ltd. will be free from defects in materials and workmanship for the period specified below from the date of purchase.

Product: 1 year.

Accessories (battery, antenna, charger, adapter, belt clip): 6 months.

#### 2. Restrictions on quality assurance (based on payment processing)

※ Even if it is within the guarantee period, you can charge the fee corresponding to the actual cost of the repair if it falls under the following grounds.

- If the statement on the quality certificate is different from the fact.
- Failure due to natural disasters or user negligence or negligence.
- Failure due to modification, arbitrary disassembly, damage or modification of the product.
- If the repair is performed by a non-A/S center designated by us.
- If the serial sticker on the product has been badly damaged or the serial number can't be checked.
- Normal and routine wear and tear.
- You have tampered with the software or firmware of the product illegally or unauthorized.
- Consumables are exhausted and need to be replaced.

#### 3. How to use warranty service

You must provide proof of purchase (including the date of purchase and serial number) at the time of warranty service and must be returned to an authorized warranty service center.

Sellers:

Purchase date:

Product serial number

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## Samyoung Celetra Inc.

### Batasan garansi dan tanggung jawab

#### 1. Objek dan Periode Jaminan Kualitas

(Selanjutnya disebut sebagai "Produk") yang diproduksi oleh Samyoung Celetra Co., Ltd. akan bebas dari cacat bahan dan pengerjaan selama periode yang ditentukan di bawah ini dari tanggal pembelian.

Produk: 1 tahun.

Aksesoris (baterai, antena, pengisi daya, adaptor, klip sabuk): 6 bulan.

#### 2. Batasan jaminan kualitas (berdasarkan pemrosesan pembayaran)

※ Bahkan jika dalam periode jaminan, Anda dapat membebankan biaya yang sesuai dengan biaya perbaikan yang sebenarnya jika itu berada di bawah alasan berikut.

- Jika pernyataan pada sertifikat kualitas berbeda dari fakta.
- Kegagalan karena bencana alam atau kelalaian atau kelalaian pengguna.
- Kegagalan karena modifikasi, pembongkaran sewenang-wenang, kerusakan atau modifikasi produk.
- Jika perbaikan dilakukan oleh pusat non-A / S yang ditunjuk oleh kami.
- Jika stiker seri pada produk rusak parah atau nomor seri tidak dapat diperiksa.
- Keausan normal dan rutin.
- Anda telah merusak perangkat lunak atau firmware dari produk secara ilegal atau tidak sah.
- Konsumsi habis dan perlu diganti..

#### 3. Cara menggunakan layanan jaminan

Anda harus memberikan bukti pembelian (termasuk tanggal pembelian dan nomor seri) pada saat layanan jaminan dan harus dikembalikan ke pusat layanan jaminan resmi.

Penjual:

Tanggal Pembelian:

Nomor seri produk