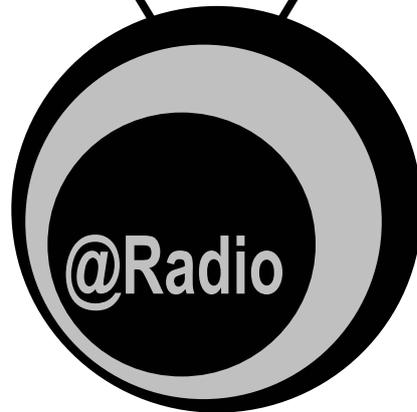## ▪ internet radio

Quick Start Manual
(사용 설명서)

TENTATIVE

@Radio

Internet radio service powered by opencast.co.kr

Quick start manual is dedicated to helping you configure and operate all aspect of internet radio.

NTI Comodo Inc
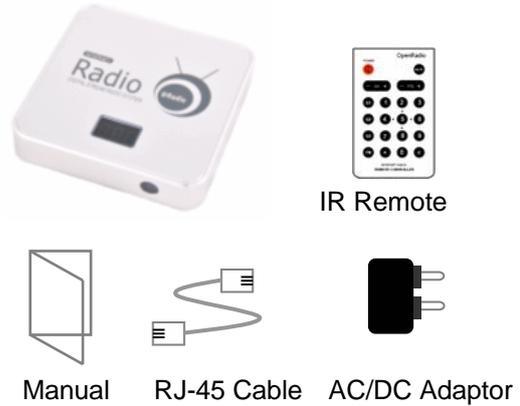
▪ INDEX

INDEX   page

▪ Out look

## 1. Internet radio retail package

The internet radio retail package consist are;
. Internet radio
. LAN Cable RJ-45 UDP
. AD/DC Adaptor DC5.0V 300mA
. IR Remote controller
. Stereo Earphone
. User Manual – Korean/English

IR Remote

Manual   RJ-45 Cable   AC/DC Adaptor

2. Internet radio Out look

The internet radio interface are;
. RJ45 LAN JACK : UDP Cable
. DC Power Jack : DC 5V 300mA
. D-SUB9 Connector : **Reserved to maintenance at Factory Test only**
. 3.5 mm(1/8") Stereo Headphone Jack
. IR Remote SENSOR :38KHz IR receiver
. Reset Switch : Recovery or firmware upgrade

Headphone jack 1/8"

D-Sub 9 Connector

Reset

RJ-45 Jack

DC power Jack

DISPLAY 3 Digit 7-segment

IR Remote sensor
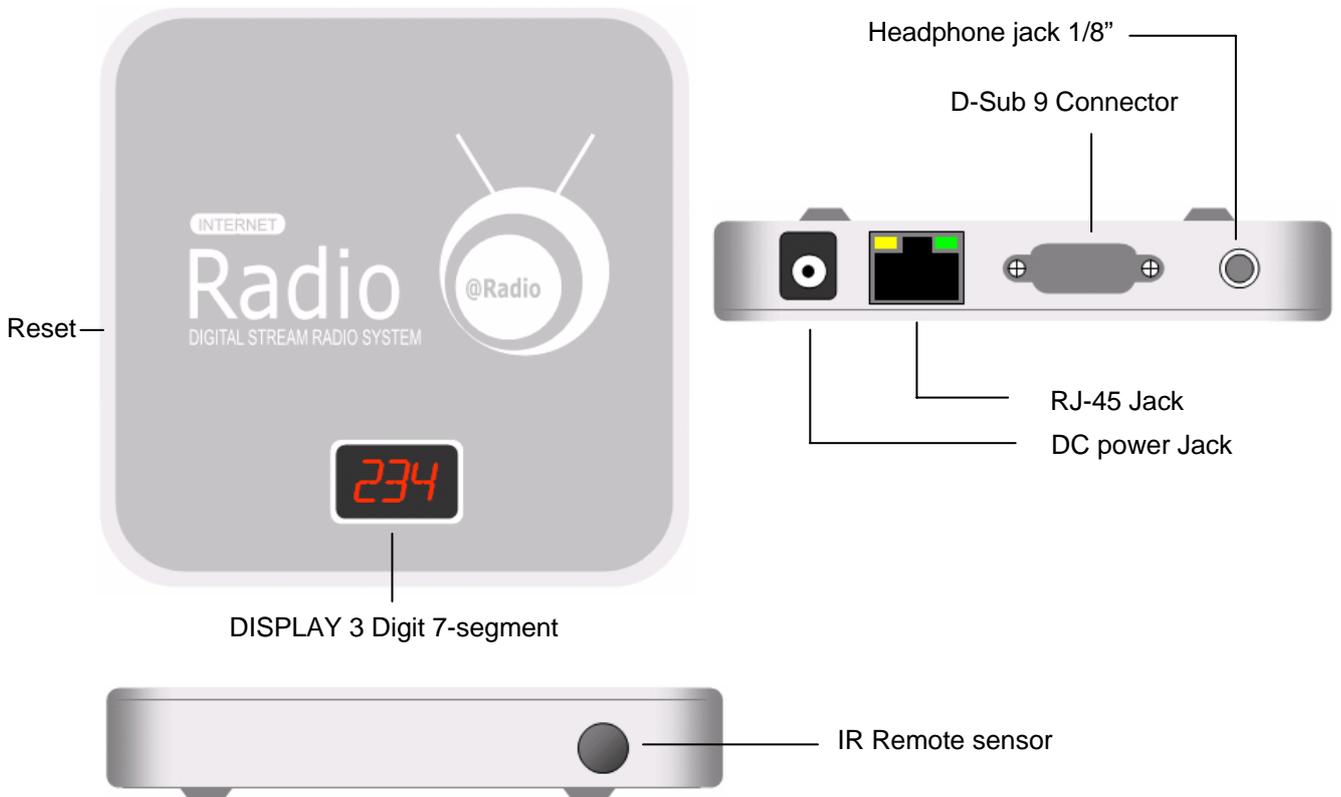
▪ Installation

3. Internet radio Standard set up configuration

The standard set up configuration is as follow figure 1 described how to set up internet radio . You may to prepare INTERNET MODEM. broadband internet connection required for internet radio service.

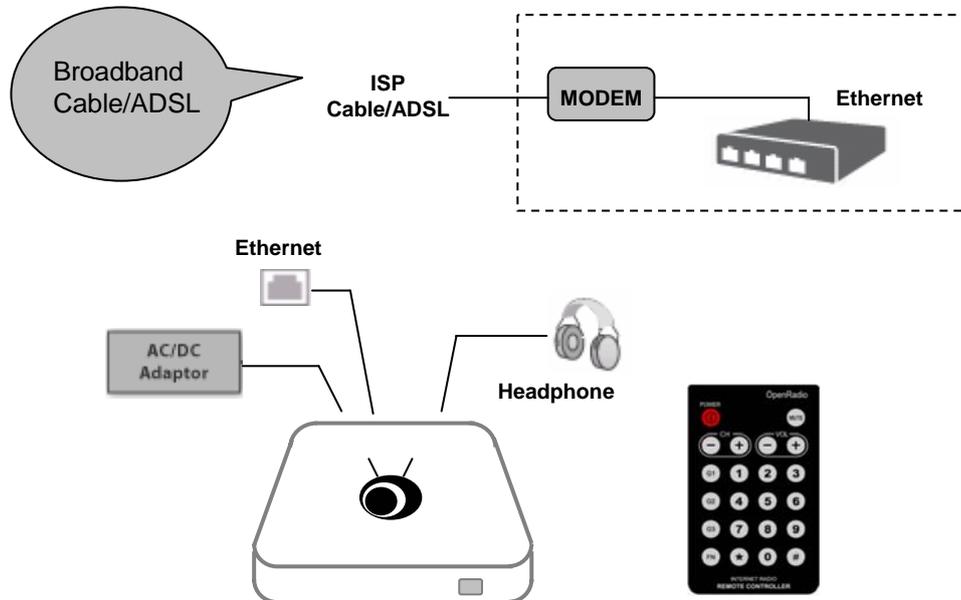**Figure-1 Standard Internet radio set up**

4. Internet radio customer set up configuration

The customer set up configuration is as follow figure 2 described how to set up internet radio. The Stereo headphone out, it can be extend to connect an external device such as Hi-fi audio amplifier with dynamic speaker system.
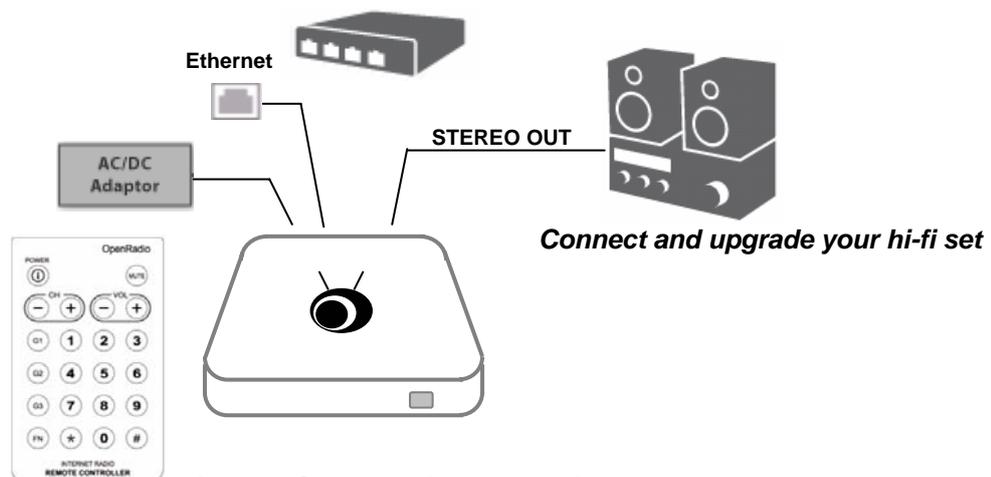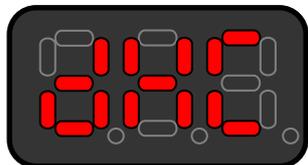
Connect and upgrade your hi-fi set
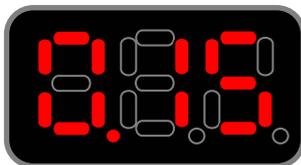
Figure-2 Customer internet radio set up

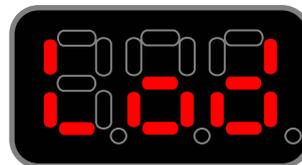# ▪ Installation

5. Internet radio Set up and Boot load

Step1, Boot loading

DHCP IP Set*   Firmware version   Loading memory

Notice*
IP Setting : The internet radio support DHCP/Static/PPPoE connection. Default IP set mode is DHCP. Please see utility tool on page 7, Described how to internet radio IP configuration.

Step2, How to select radio station ?

1. Press numeric number
Example) 100 channel

Remote controller numeric key
press 1 + 0 + 0
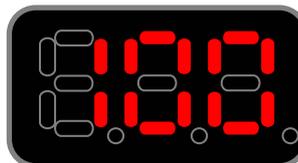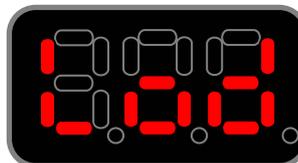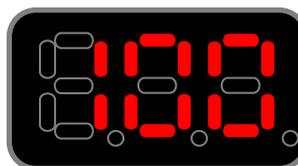
2. Loading station- channel #100
It will take few second depend on
internet connection speed

3. Radio station audio automatically
start playback, and listen headphone

Notice
There are 3 radio station group 1)G1 free radio station, 2) G2 music station and 3)G3 user define station group in a internet radio. Please see on page 4 internet radio group select key information and on page 9 described more information of G1/2/3 station group

Step3, How to Playback volume control ?

The volume level control range 32 step from 0(zero) to 32 by IR remote controller

Press +/- key at IR remote controller

▪ Remote Controller

6. Quick guide IR Remote controller operation

Power key
Internet radio power on/off

Mute key
Sound mute toggle

Channel +/- key
channel increase/decrease

Volume +/- key
channel increase/decrease

Group select key*
G1: Free station group
G2: Commercial music group
G3: user defined station group

NUMERIC KEY 1~0
Numeric keys for quick
Select /move station channel

**CR-2025
Battery shape**

CR-2025
+

Battery cover
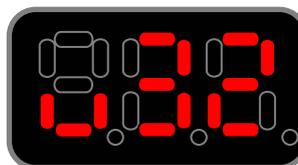CR-2025 Coin type
*keep polarity +/- correctly replaced

*Group select key notice
G1: Free station group – opencast provide free radio station channel up to 999 stations
The station list will update without notice, please visit oprncast website at http://opencast.co.kr

G2: Commercial music group – opencast provide music station channel up to 999 stations
This G2 music station required registration. Please contact your local representative

G3: user defined station group – its empty channel for user defined channel station.
Example, the user can figure out favorite internet radio station by utility software

▪ Quick Operation

7. Quick Operating Table – Remote controller

Please see below table is described quick operating remote controller.

Function	Description		
IP Set up	IP Configuration tool	Openradio.exe Visit website and download tool	
Station group (See page 9)	Group1 IR Remote key **G1** Free station 999ch	Group2 IR Remote key **G2** Commercial 999 ch	Group3 IR Remote key **G3** User define 999 ch
Power on/off	Press power key, toggle on/off (i)		
Channel up/down	Increase press + key at IR REMOTE decrease press – key at IR REMOTE	— CH +	
Volume up/down	Increase press + key at IR REMOTE decrease press – key at IR REMOTE	— VOL +	
Sound mute on/off	Press "mute" key Sound mute toggle on/off	MUTE	

8. Display 3 Digit alpha-numeric error message table

The internet radio 3 digit LED alphanumeric display indicate error message as follows;

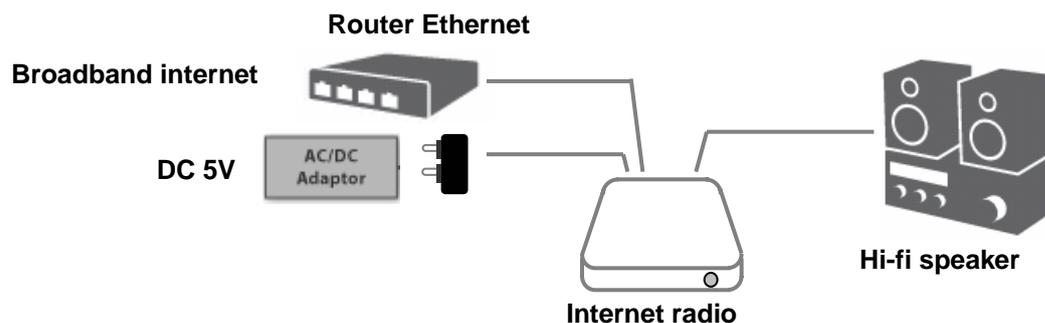| Display 3 digit	Description
E01	Internet connection is not available. Please check modem or ISP
E02	Stream server is not available or not response
not	The station is not available; Stream Server is working or stop broadcasting
Lod	Loading memory/ or receiving stream data
Loc	The internet radio expired service

▪ Specification

9. Specification

The internet radio device allow to use indoor/or office only. if more information, please contact opencast sales office/representative.

Absolute maximum Ratings

Supply Voltage	5.0V DC
Power consumption	300mA
Temperature Range	-40 ~ +85

Technical specification			
Stream format	2ch (Left/Right) 18 bit resolution	MP3	Up to 48K sample 320K bit rate
		WMA	Up to 48K sample 192K bit rate
Network interface	Ethernet RJ-45 DHCP/STATIC/PPPOE		
Network Security	none		
Audio Interface/output	Headphone out 1/8 " Full scale 1.5Vpp output Voltage		
Power supply	DC 5V 300mA external power adaptor		
Dimensions	110 mm x 110 mm x 22 mm Metal case - aluminum		
Weight	Net g	Full retail package g	
Firmware	Opencast RTOS upgradeable to ensure that latest capabilities and service can be offered on your opencast internet radio 2008-Nov : First release firmware version 1.0		
Requirement	Router	Router with wired 10/100 RJ-45 Ethernet connection Broadband internet connection required	
	NAS Device	Upnp compatible hardware (Upnp Server)	
Internet Radio Service	Shoutcast Server		
Display/Indicator	3 Digits 7-segment FND (Alpha-numeric display)		

Recommend

▪ Utility tool

10. IP Configuration tool

The IP configuration tool is utility software that support to set IP configure in your internet radio device.
- openradio.exe : for internet radio general user (downloadable from website at www.opencast.co.kr)
- openradio_admin.exe : enterprise/representative only (contact opencast sales/representative)

Openradio.exe screen shot (Korean)

IP Configuration tool support
1)   Set IP – STATIC/ DHCP/PPPoE
2)   Available IP setting with multi internet radio device that connected local Ethernet router
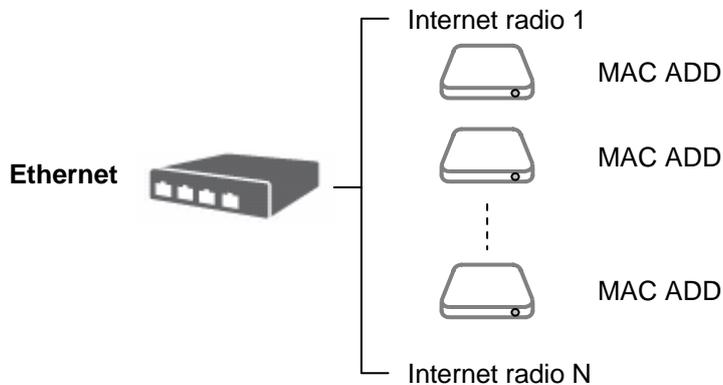
▪ Utility tool

11. How to add new internet radio station at Group 3 user define station list?

Notice: please set up internet radio device before you execute tool.
1) Click 라디오검색 button
2) Search progress bar indicate and display Mac Address/F/W Version of device.
3) Display IP mode and Address

Add New internet radio station URL (support protocol http:// and mms://)
Step 1: Click Internet radio device (listing Mac Address as many as connected same router)
Step 2: Select target device which you add new station
Step 3: Input Station name and URL
Step 4: Save current new internet radio station click

More information, please refer to appendix2 – G3 User define 999 station

How to listen my new added internet radio station
1) After save and stored new station, the internet radio device will reset automatically.
2) Press G3 key at Remote controller and select G3 station list
3) Select channel Number, It will be loading and start playback if you correct URL.

Notice
Do not input station URL as **http://abc.123.com/listen.pls**
Required URL address with stream server port no.
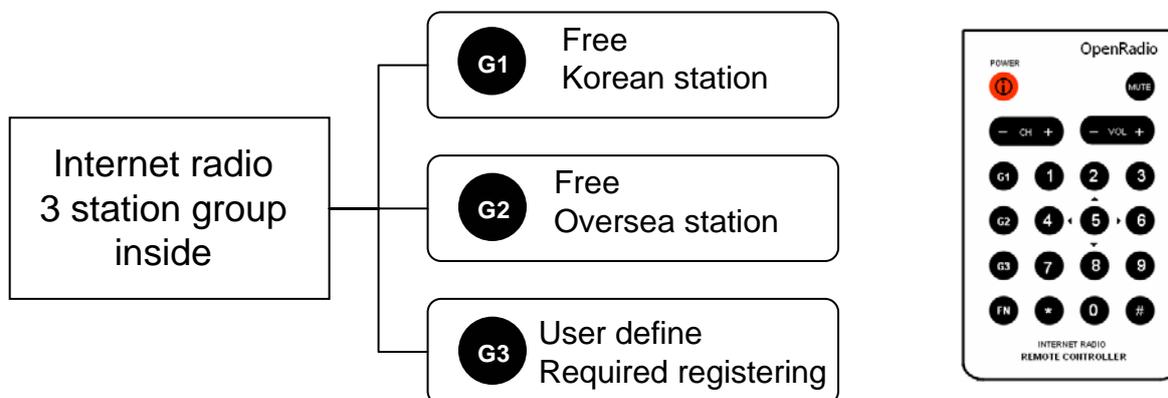
Example correct URL format
http://sc01.jukeon.com:8010
mms://211,43.217.85/fm_live
http://www.rthk.org.hk/live1.asx

▪ G1/G2/G3 Station Group

12. Over view - Internet radio station Group information
The internet radio have 3 station groups internal memory as G1 group is free radio station list, G2 is commercial music station group and G3 is user define station group.

Highlight of internet radio group

G1 group : 24 hr internet radio station – Korean live broadcast station
　　　　　　All type of world – US, Japanese, Chinese, Spanish etc
　　　　　　G1 group support up to 999 stations – it will up-to-date list of station without notice

G2 group : 24 hr oversea radio station – Generic, oldies, country, dance, electronic, Rock, Jazz etc
　　　　　　G2 group support up to 999 stations – its will up-to-date list of station without notice,

G3 group : internet radio user can be set up to 999 station. Required utility tool
　　　　　　Support your favorite internet radio station list and figure out your own station channel.

Example) How to turn on G1 group and select a channel?

Step 1: Press Group Key(G1) at IR remote controller

Step 2: Internet radio 3digit indicated **P-1**

Step 3: Select channel ex) 001 Korean SBS POWER FM

　　　　press +/- ch up/down key,   1 step channel up/down

▪ G1/G2/G3 Station Group

13. Description - Internet radio station Groups

Group	Descriptions	Remark
G1 **Free** internet radio	**Highlight** 24hr Korean live station –private live DJ K-POP:가요/종합/댄스/팝/뉴 에이지 등 Korean broadcast : 아리랑/극동/지역방송국 외 All type of world USA/Aust/Spain/England/Mexico/China/Japan Eerope/Asia/America/Oceania	**Free radio station** Provide Korean station by opencast Generic – Kpop, Jpop, Chinese etc Recommend – Interested in Korean and Korean popular music Please visit website and see detail of station list.(www.opencast.co.kr)
G2 **Commercial** Music station	**Highlight** Most of popular internet radio station. Generic – Pop, dance, jazz, country etc All type of world	**Free radio station.** Provide oversea station by opencast Generic –pop, pop, Chinese etc All type of world Please visit website and see detail of station list. (www.opencast.co.kr)
G3 **User** defined station	G3 station group is empty. Allowing to add your favorite internet radio station by yourself. Maximum capacity is up to 999 stations	Required PC Utility software Please visit website and download **Openradio.exe**
Notice	**G1 Station list will be changed without notice.** We actively encourage our users and listeners to suggest new stations to be added to our service. Allows you suggest us a new Internet radio station for inclusion in the Open Radio stations list database. Also recommend updates to our Existing stations list.	There is no charge for this service. Please mailing us at comodomusic@paran.com And including your information as followings; Your name[이름] e-mail address[이메일주소] Station name[방송국 이름] Station URL[방송 주소] Category [장르] Country[국가] web page[홈페이지] Additional information[기타]

Document History
2008/Nov : First released - tentative

By David Yoon
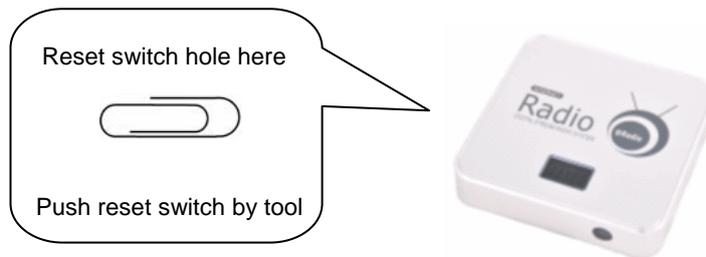*Internet radio device R&D Lab*
NTI Comodo Inc

END

• Appendix1 – Recovery internet radio system

The internet radio system support to recover factory rescue recovered by RESET function.

How to recover my internet radio?

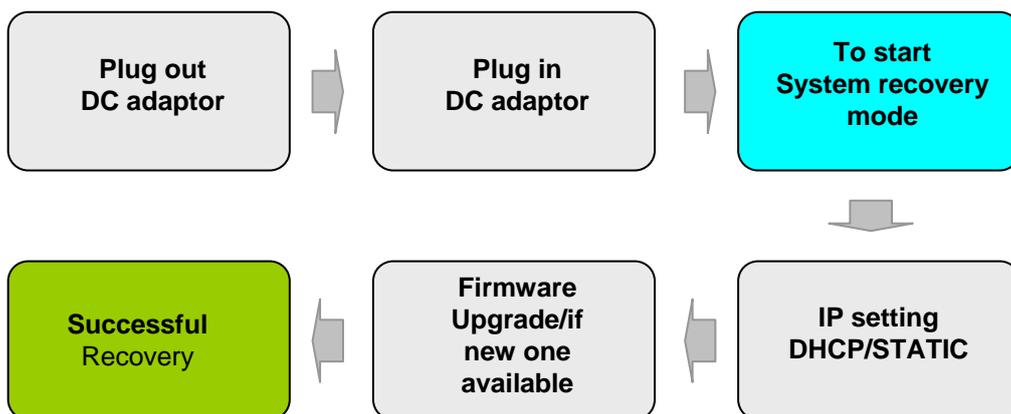**1. Required special sharp tool – example) needle, paper clip etc**

Reset switch hole here

Push reset switch by tool

Push reset switch and the device to start recovery as followings;

1)   Turn off Display indicator
2)   Restore data – to checking IP mode and setting up
3)   Device Firmware version   - if new version available, it will be upgrade automatically.
4)   Downloading configuration and other information
5)   Successfully recovered – turn on radio with latest mode
       (what you selected station and channel no)

2. Plug out DC adaptor from internet radio device
More simple way to upgrade firmware and channel information, The user allow to plug out DC adaptor and plug in again. It is similar to push reset switch and system recovery

Plug out DC adaptor	⇒	Plug in DC adaptor	⇒	To start System recovery mode
Successful Recovery	⇐	**Firmware Upgrade/if new one available**	⇐	**IP setting DHCP/STATIC**

• Appendix2 - Internet radio channel information table

인터넷 라디오 채널 요약 정보 입니다. 상세한 채널 정보를 보시려면 홈페이지 www.opencast.co.kr를 방문하시기 바랍니다.
This short form table of internet radio channel described limited, If you need more information please visit web site at http://opencat.co.kr then we can better serve you.

아래의 정보는 인터넷 라디오 서비스 오픈 캐스트 에서 제공하는 채널 정보로써. 라이센스 계약에 의하여 제공되는 채널이며, 채널 제공자, 콘텐츠 제작자, 네트워크 전송권 등 일체의 정보는 법적으로 보호 의무가 있습니다. 임의로 복사 이동 저장 등 무단 사용시 법적 처벌을 받을 수 있습니다.

Group	Ch. no	Description	Remark
		G1 무료 인터넷 라디오 한국 채널 안내 – Korean internet radio station	
G1 Free 999 Station	Now available ch.no 001 ~ 185	[FM radio] Korean FM radio broadcasting	Korean FM radio
		[팝] Private music broadcast station – pop ch	Private music station
		[트로트] Private music broadcast station - Korean popular song	Private music station
		[종합] Private music broadcast station – Korean hit song	Private music station
		[댄스] Private music broadcast station – Dance/remix	Private music station
		[뉴에이지] Private music broadcast station – New age	Private music station
		[개인] Private music broadcast station	
		[가요] Korean hit song ch	
	186 ~ 999	**Reserved. Ch 999 reserved for open radio Test/demo**	
		G2 무료 인터넷 라디오 해외 채널 안내 – Oversea internet radio station	
G2 Free 999 Station	Now available ch.no 001 ~ 229	Todays Dance, Dance Hits	-
		50s, 60s, 70s, 80s Channel	-
		Country Hits, Acappella	-
		Electronica, Christmas, Smooth Jazz	-
		Beats, Classic Country, Disco	-
		Classic Hits,	-
		Australia, Mexico, US, Spain, Japan, Hong Kong etc	-
		Classic Rock, Disco Classics	-
		European Trance, Techno	-
	230 ~ 999	**Reserved. Ch 999 reserved for open radio Test/demo**	-
		G3 사용자 정의 형 채널 입니다 – Allow to user define eg, add your favorite internet radio station URL	
G3 User 999 Station	001 ~ 999	User define station list – Required utility tool software	Openradio.exe
	Stream URL	Support protocol 1)HTTP:// 2) MMS://	
	Audio file	Support stream playback WMA, MP3 Type of audio file	Stream audio file Stream media server
	Window media	Ex) Stream URL mms://abc.123.com/abc	
	Shout cast	Ex) Stream URL http://abc.123.com:8000	
	Stream file	Ex) http://opencast.co.kr/download/audiobook/sample04.mp3	

Notice.
1) The channel list changed without notice. Please visit web site at http://opencast.co.kr to get latest channel information.
2) G2 Commercial music 999 station required registration. Please contact local representative or mailing us at comodomusic@paran.com then we can better serve you.
2) G3 User 999 Station list – The G3 channel group reserved for user defined such as stored your favorite internet radio station

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