

# WEIVER 2.0 – HD Radio Vector Signal Generator

AM/FM 325 Libraries



## WEIVER 2.0 – HD Radio Vector Signal Generator

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## WEIVER 2.0 – HD Radio Vector Signal Generator

### 1.1 Introduction & Features

WEIVER 2.0 plays back the real world RF signals which had either recorded with WEIEVR - RF capture and playback platform or other RF capture equipments. Also, it comes with a converting utility that converts the I/Q data file into a possible data format, .wpj, with WEIVER 2.0. It's all for to re-generate real world RF environments that are too complex To exact simulate. It records signals directly to external SSD, and plays back directly from external SSD, so you can carry the “hassle-free heavy RF data copy” on your own.

#### FEATURES

- HD Radio Vector File Signal Generation (HD Radio AM/FM, Total 176 Files)
- Supports all universal DTV and ATV broadcasting include Broadcasting Radio protocols
- Playback of real world broadcasting signals recorded with WEIEVR R & P platform to regenerate real world conditions that are too complex to simulate
- Front-access hot swappable SSD for fast reading and writing speed
- e-SATA interface for external storages
- Support for Real-time Spectrum and GPS location with Signal Tracer

WEIVER-RF capture and playback system can plays back RF signals covering the bandwidth range from 8M to 56M, or ARB in almost any environment, such as in laboratories or during on-site testing. You can see the all information about WEIVER-RF capture and playback equipment from LUMANTEK's web site (<http://www.lumantek.com/>)

[Weiver HD Radio Version Information]

Weiver: 2.2.0.4 or above / DSP: 4.6.1.0(HW 1.6) or above

Weiver HD Radio: 1.0.0.0 or above



## 1.2 User System Requirements

Your PC(System) must meet the following specification.

### **Computer / Processor**

- Intel Pentium 4 2.33GHz
- Athlon 64 2800 or the faster processor

### **Operating System**

- Windows XP 32 bit service pack(sp2)
- Windows Vista 32 bit service pack(sp2)
- Windows Vista 64 bit service pack(sp2)
- Windows 7 32bit
- Windows 7 64bit

### **Memory - 2GB RAM**

### **Hard Disk Space**

- 512 GB SSD available hard disk space

### **Screen**

- 1024x768,“32-bitTrue Color” -DirectX 9.0c or higher

### **Graphics Card**

- DirectX 9.0c supported

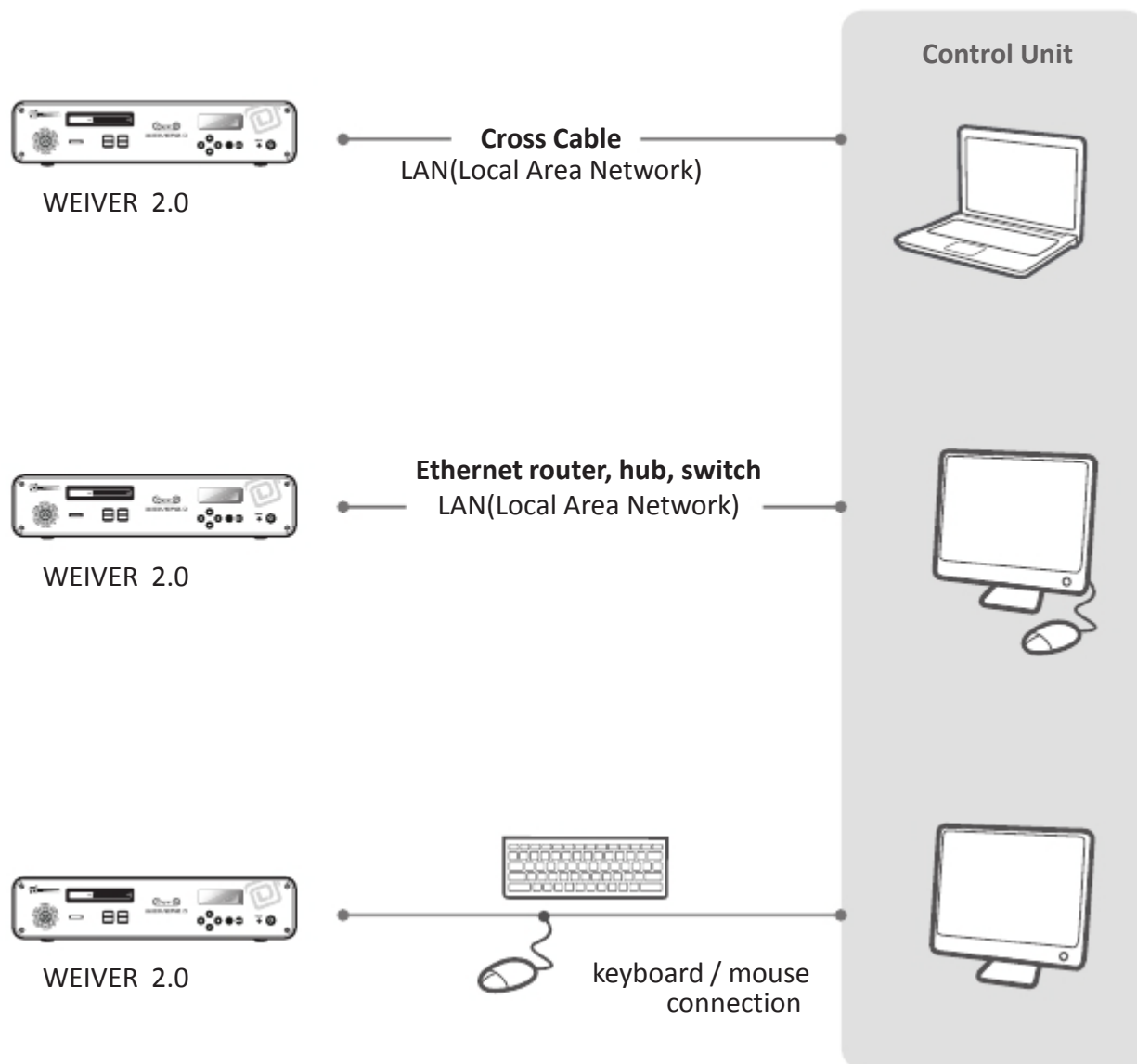
### **Network**

- 10/100 Mbps network card, 10/100/1000Mbps network card(Recommend)
- 802.11 b/g Wireless network card

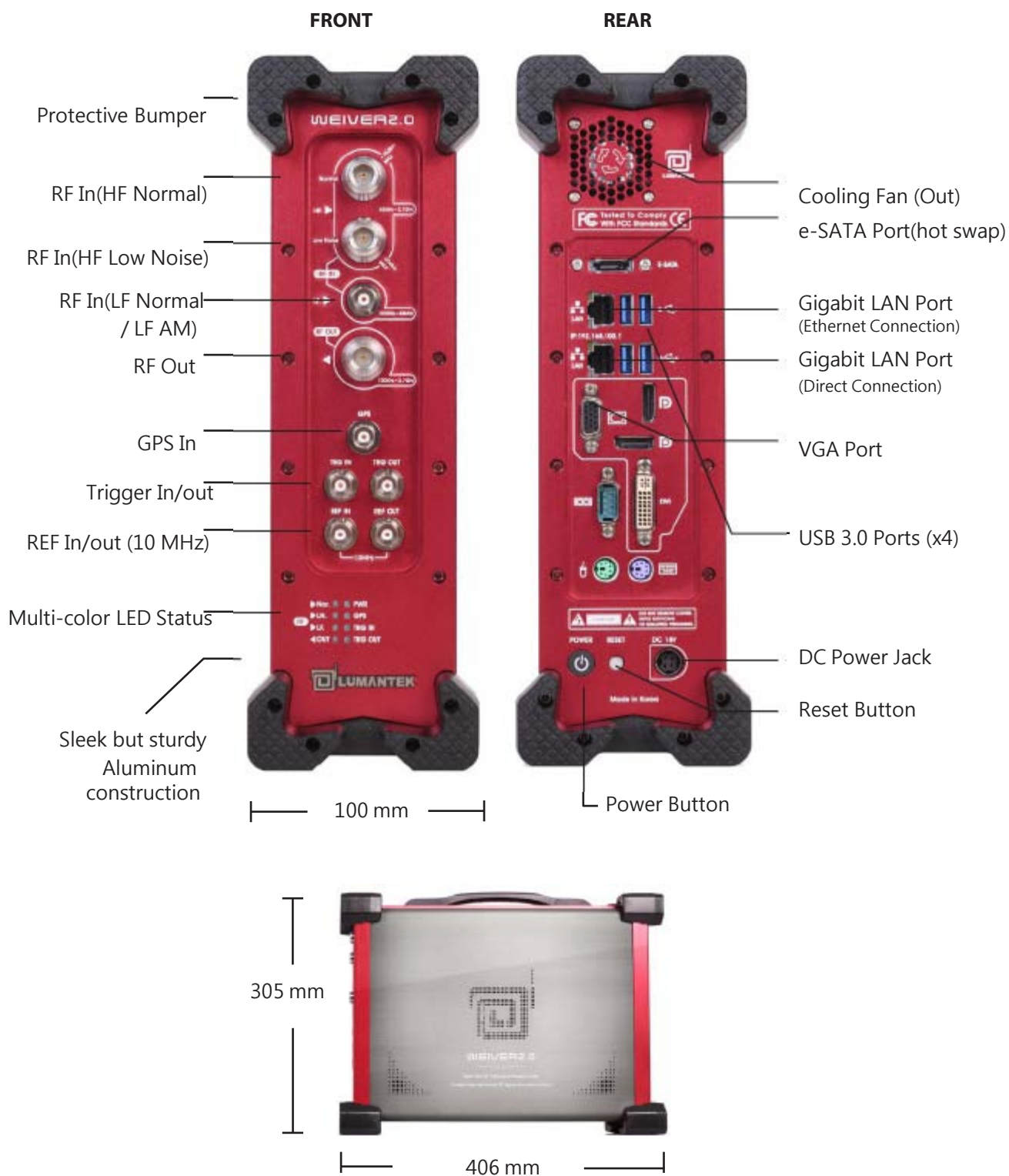
### **External SSD Hard disk (Optional)**

- Size : 512 GB / 1TB -TRIM :Yes
- Write Speed : 220 MB / Sec(Max.) -Read Speed : 250MB / Sec(Max.)

### 1.3 Control Configuration(Recommended)



## 1.5 WEIVER 2.0 Components-1





## 1.6 WEIVER 2.0 Components-2

- Basic Component



Cable 1



WEIVER 2.0 Body



WEIVER 2.0 AC Cord

WEIVER 2.0 USB

Weiver\_EX Program  
Weiver HD Radio Program  
WEIVER 2.0 Operation  
Manual  
WEIVER 2.0 Test Report  
WEIVER 2.0 Restore Data



- Optional Component

WEIVER External SSD



WEIVER External SSD USB Power



WEIVER External SSD e-SATA Cable



## 1.7 Installation precautions

This section describes safety precautions that users shall be aware of during the system Installation and operation. Not complying such precautions may result in serious harm or personal injuries. . For that reason, please keep all details here in mind before installing or using WEIVER 2.0 . [Please carefully read the followings for safe use of Weiver 2.0](#)

### General Precautions

- ① Must be operated and maintained free of dust or dirt.
- ② The cover should be securely fastened.
- ③ Securely stow all the cables, external antennas, external SSD or any other tools away in a safe place after its use.
- ④ Avoid wearing loose, draping clothing, and dangling jewelry when using WEIVER 2.0 .
- ⑤ Do not open the WEIVER 2.0 case. Doing so may void the warranty and LUMANTEK takes no responsibility for the damages caused by such action. Should you be experiencing performance issues, please contact your local dealer for assistance.

### Power Precautions

- ① Make sure if it may cause overload in wiring when you connect the power source.
- ② Avoid wearing necklaces or watches when connecting the system to power sources. These may cause electronic shocks to the system.
- ③ Avoid operating on a wet floor out in the open (e.g., raining). Make sure the power extension cable is in satisfactory condition (e.g., not worn out).
- ④ Disconnect the system from power source before hardware installation, rub or contact on the metal surface of the system to discharge statics from your body.
- ⑤ Note: Manufacturer is not responsible for damages caused by using or replacing inappropriate components or not authorized services.
- ⑥ Supplying power during installation may cause serious damages to the system and personal injuries.

### AC Power

- ① This unit comes with the AC power cord, grounding connection is necessary.
- ② In the event of a fire, please disconnect the system from power source.

### Log-off Caution

- ① [Do NOT log off while “Remote Desktop “is running. You must shut-down the program by pressing](#)
- ② [the close\[x\] button on top right. If you log-off the , running program will be stopped and](#)
- ③ [“Please Wait” sign will be appeared on front panel.](#)
- ④ [To recover from this state, you must log-on again after connecting the keyboard & monitor.](#)

## 2.1 HD Radio Vector Signal generator – Version Info

### [Weiver HD Radio RF Playback System specification]

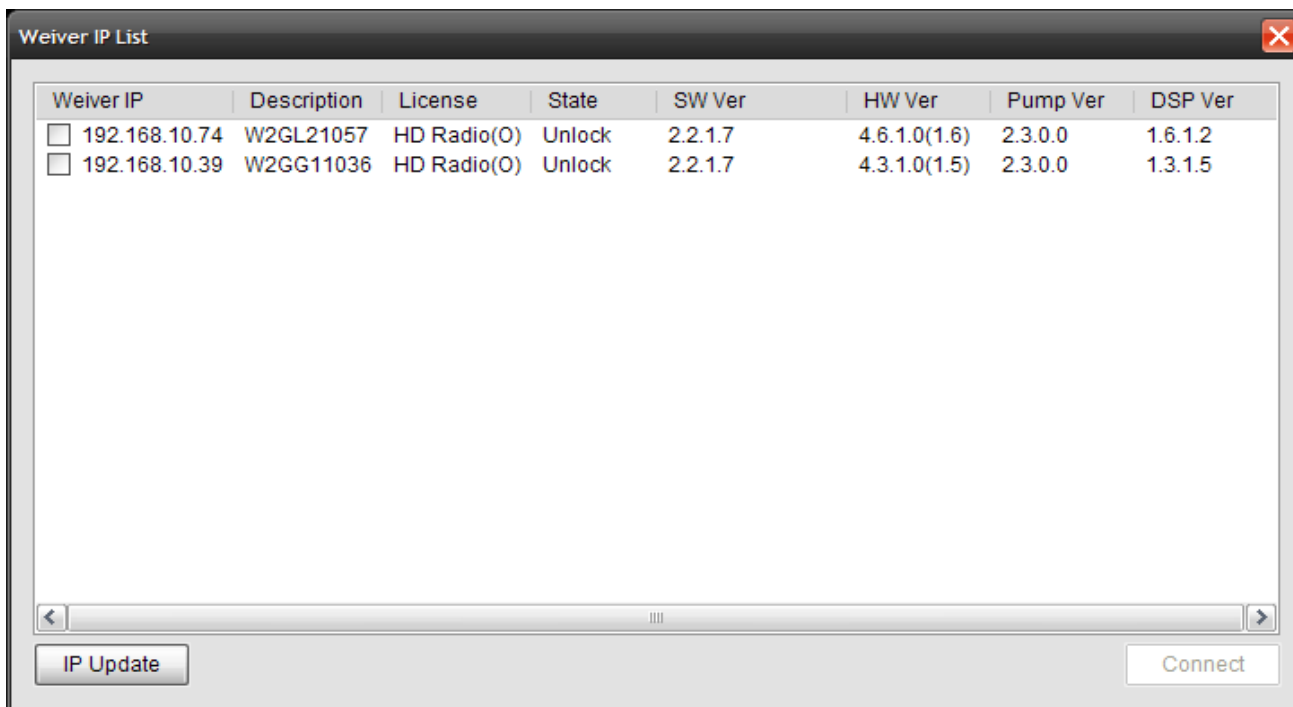
Same as Weiver 2.0 specification

### [Weiver HD Radio Version Information]

Weiver: 2.2.0.4 or above

DSP: 4.6.1.0(HW 1.6) or above

Weiver HD Radio: 1.0.0.0 or above



The screenshot shows a window titled "Weiver IP List" with a table of IP addresses and their associated hardware and software versions. The table has columns for Weiver IP, Description, License, State, SW Ver, HW Ver, Pump Ver, and DSP Ver. There are two rows of data, each with a checkbox in the first column.

Weiver IP	Description	License	State	SW Ver	HW Ver	Pump Ver	DSP Ver
<input type="checkbox"/> 192.168.10.74	W2GL21057	HD Radio(O)	Unlock	2.2.1.7	4.6.1.0(1.6)	2.3.0.0	1.6.1.2
<input type="checkbox"/> 192.168.10.39	W2GG11036	HD Radio(O)	Unlock	2.2.1.7	4.3.1.0(1.5)	2.3.0.0	1.3.1.5

At the bottom of the window, there are two buttons: "IP Update" and "Connect".

## 2.2 Vector File List

[Weaver HD Radio Vector Files] **Total 325 Files / sizes total 300 GB**

AM files : 91 files / FM files: 234 files

**Caution: Do NOT change the file names. It won't be shown on the file list if the file name has been changed.**

### [AM] 92 files

IB\_AM\_e1\_awgn.bin  
IB\_AM\_e1a\_CW\_dc.bin  
IB\_AMr001\_e1\_cw\_0\_m10.bin  
IB\_AMr001\_e1\_cw\_2\_6.bin  
IB\_AMr001\_e1\_cw\_m1\_m2.bin  
IB\_AMr001\_e1\_cw\_m7p5\_10.bin  
IB\_AMr001\_e1\_cw\_m30\_0\_30.bin  
IB\_AMr201\_e1awfc52.bin  
IB\_AMr201\_e1awfr1190.bin

IB\_AMr208\_e1awfa05.bin  
IB\_AMr208\_e1awfa07.bin  
IB\_AMr208\_e1awfa10.bin  
IB\_AMr208\_e1awfb01.bin  
IB\_AMr208\_e1awfb02.bin  
IB\_AMr208\_e1awfb03.bin  
IB\_AMr208\_e1awfb04.bin  
IB\_AMr208\_e1awfb05.bin  
IB\_AMr208\_e1awfb102.bin  
IB\_AMr208\_e1awfb104.bin  
IB\_AMr208\_e1awfb111.bin  
IB\_AMr208\_e1awfb113.bin  
IB\_AMr208\_e1awfb119.bin  
IB\_AMr208\_e1awfb121.bin  
IB\_AMr208\_e1awfb124.bin  
IB\_AMr208\_e1awfb126.bin  
IB\_AMr208\_e1awfb128.bin  
IB\_AMr208\_e1awfb130.bin  
IB\_AMr208\_e1awfb131.bin  
IB\_AMr208\_e1awfb132.bin  
IB\_AMr208\_e1awfb134.bin  
IB\_AMr208\_e1awfb135.bin  
IB\_AMr208\_e1awfb145.bin  
IB\_AMr208\_e1awfb243.bin  
IB\_AMr208\_e1awfc00.bin  
IB\_AMr208\_e1awfc04.bin  
IB\_AMr208\_e1awfc06.bin  
IB\_AMr208\_e1awfc08.bin  
IB\_AMr208\_e1awfc10.bin

IB\_AMr208\_e1awfc11.bin  
IB\_AMr208\_e1awfc19.bin  
IB\_AMr208\_e1awfc20.bin  
IB\_AMr208\_e1awfc23.bin  
IB\_AMr208\_e1awfc24.bin  
IB\_AMr208\_e1awfc26.bin  
IB\_AMr208\_e1awfc27.bin  
IB\_AMr208\_e1awfc29.bin  
IB\_AMr208\_e1awfc30.bin  
IB\_AMr208\_e1awfc31.bin  
IB\_AMr208\_e1awfc32.bin  
IB\_AMr208\_e1awfr1221.bin  
IB\_AMr208\_e1awfr1224.bin  
IB\_AMr208\_e1awfr1249.bin  
IB\_AMr208\_e1awfr1260.bin  
IB\_AMr208a\_e1awfb00.bin  
IB\_AMr208a\_e1awfb138.bin  
IB\_AMr208a\_e1awfc33.bin  
IB\_AMr208a\_e1awfc34.bin  
IB\_AMr208a\_e1wfr1123.bin  
IB\_AMr208a\_e1wfr1124.bin  
IB\_AMr208b\_e1awf1123.bin  
IB\_AMr208b\_e1wfr1124.bin  
IB\_AMr208c\_e1awf1124.bin  
IB\_AMr208c\_e1awfa11.bin  
IB\_AMr220\_e1awfc28.bin  
IB\_AMr230\_e1awfr1005.bin  
IB\_AMr230\_e1awfr1187.bin  
IB\_AMr230\_e1awfr1220.bin  
IB\_AMr230\_e1awfr1261.bin  
IB\_AMr230a\_e1awfr1001.bin  
IB\_AMr230a\_e1awfr1002.bin  
IB\_AMr230b\_e1awfc102.bin  
IB\_AMr230d\_e1awfr12.bin  
IB\_AMr430\_e1wfr1016.bin  
IB\_AMr430\_e1wfr1017.bin  
IB\_AMr430\_e1wfr1018.bin

IB\_AMr430\_e1wfr1019.bin  
IB\_AMr430\_e1wfr1020.bin  
IB\_AMr430\_e1wfr1021.bin  
IB\_AMr430\_e1wfr1022.bin  
IB\_AMr430\_e1wfr1023.bin  
IB\_AMr430\_e1wfr1024.bin  
IB\_AMr430\_e1wfr1025.bin  
IB\_AMr430\_e1wfr1026.bin  
IB\_AMr430\_e1wfr1027.bin  
IB\_AMr430\_e1wfr1028.bin  
IB\_AMr440\_e1wfr1116.bin  
IB\_AMr440\_e1wfr1117.bin  
IB\_AMr440\_e1wfr1428.bin  
IB\_AMr440\_e1wfr1443.bin  
IB\_AMr440\_e1wfr1447.bin  
IB\_AMr440\_e1wfr1454.bin  
IB\_AMr440\_e1wfr1454.bin  
IB\_AMr500\_e1wfr1812.bin

### [FM] 235 files

CC\_TTN\_FMr440a\_e1wfr001.bin  
CC\_TTN\_FMr440a\_e1wfr002.bin  
CC\_TTN\_FMr440a\_e1wfr003.bin  
CC\_TTN\_FMr440a\_e1wfr004.bin  
CC\_TTN\_FMr440a\_e1wfr005.bin  
CC\_TTN\_FMr440a\_e1wfr006.bin  
CC\_TTN\_FMr440a\_e1wfr007.bin  
CC\_TTN\_FMr440a\_e1wfr008.bin  
CC\_TTN\_FMr440a\_e1wfr009.bin  
CC\_TTN\_FMr440a\_e1wfr010.bin  
CC\_TTN\_FMr440a\_e1wfr011.bin  
CC\_TTN\_FMr440a\_e1wfr012.bin  
CC\_TTN\_FMr440a\_e1wfr013.bin  
CC\_TTN\_FMr440a\_e1wfr014.bin  
CC\_TTN\_FMr440a\_e1wfr015.bin  
CC\_TTN\_FMr440a\_e1wfr016.bin  
CC\_TTN\_FMr440a\_e1wfr017.bin

**[FM] 235 files**

[illegible]

ÔÔ VV' ØT III Æ AF, Æ Faa Á  
 ÔÔ VV' ØT III Æ AF, Æ Gaa Á  
 ÔÔ VV' ØT III Æ AF, Æ Iaa Á  
 ÔÔ VV' ØT III Æ AF, Æ laa Á  
 ÔÔ VV' ØT III Æ AF, Æ Jaa Á  
 ÔÔ VV' ØT III Æ AF, Æ Eaa Á  
 ÔÔ VV' ØT III Æ AF, Æ Faa Á  
 ÔÔ VV' ØT III Æ AF, Æ Gaa Á  
 ÔÔ VV' ØT III Æ AF, Æ Haa Á  
 ÔÔ VV' ØT III Æ AF, Æ laa Á

ÔÔ' ØT||Hcà' ^F, ↓€€Ffàq Á  
 ÔÔ' ØT||I €' ^F, ↓€Í' Pã @œœJæ^fàq Á  
 ÔÔ' ØT||I €ã' ^F, ↓€FFfàq Á

$$\begin{array}{l} \hat{O}\hat{O}' \otimes \mathbb{I} \mid \mid \mid \epsilon_a' \wedge F, \vdash \text{FC} \hat{a} \hat{a} \hat{A} \\ \hat{O}\hat{O}' \otimes \mathbb{I} \mid \mid \mid \epsilon_a' \wedge F, \vdash \text{FH} \hat{a} \hat{a} \hat{A} \\ \hat{O}\hat{O}' \otimes \mathbb{I} \mid \mid \mid \epsilon_a' \wedge F, \vdash \text{FI} \hat{a} \hat{a} \hat{A} \end{array}$$
[illegible]

$\mathcal{O}' \otimes \mathcal{I} \otimes \mathcal{G} \in \wedge^F, \downarrow \text{FFGG} \hat{\mathcal{E}} \hat{\mathcal{A}} \hat{\mathcal{A}}$   
 $\mathcal{O}' \otimes \mathcal{I} \otimes \mathcal{G} \in \wedge^F, \downarrow \text{FFI} \hat{\mathcal{E}} \hat{\mathcal{A}} \hat{\mathcal{A}}$   
 $\mathcal{O}' \otimes \mathcal{I} \otimes \mathcal{G} \in \wedge^F, \downarrow \text{FG} \hat{\mathcal{E}} \hat{\mathcal{A}} \hat{\mathcal{A}}$

FM-I94W-US24-Loss-1222014 e1 101.1.bin

IB\_FMr440\_e1wfr1301.bin  
IB\_FMr440\_e1wfr1302.bin  
IB\_FMr440\_e1wfr1315.bin  
IB\_FMr440\_e1wfr1332.bin  
IB\_FMr440\_e1wfr1343.bin  
IB\_FMr440\_e1wfr1345.bin  
IB\_FMr440\_e1wfr1347.bin  
IB\_FMr440\_e1wfr1360.bin  
IB\_FMr440\_e1wfr1362.bin  
IB\_FMr440\_e1wfr1503.bin  
IB\_FMr440a\_e1wfr1303.bin  
IB\_FMr440a\_e1wfr1304.bin  
IB\_FMr440a\_e1wfr1305.bin

**[FM] 235 files**

IB\_FMr440a\_e1wfr1314.bin  
 IB\_FMr440a\_e1wfr1323.bin  
 IB\_FMr440a\_e1wfr1331.bin  
 IB\_FMr440a\_e1wfr1342.bin  
 IB\_FMr440b\_e1wfr1300.bin  
 IB\_FMr440b\_e1wfr1307.bin  
 IB\_FMr440b\_e1wfr1326.bin  
 IB\_FMr208\_e1wfr1247.bin  
 IB\_FMr208\_e1wfr1248.bin  
 IB\_FMr208c\_e1wfa05.bin  
 IB\_FMr208c\_e1wfa25.bin  
 IB\_FMr208c\_e1wfa98.bin  
 IB\_FMr208c\_e1wfa99.bin  
 IB\_FMr208c\_e1wfc00.bin  
 IB\_FMr208c\_e1wfc03.bin  
 IB\_FMr208c\_e1wfc08.bin  
 IB\_FMr208c\_e1wfc09.bin  
 IB\_FMr208c\_e1wfc10.bin  
 IB\_FMr208c\_e1wfc27.bin  
 IB\_FMr208c\_e1wfc28.bin  
 IB\_FMr208c\_e1wfc30.bin  
 IB\_FMr208c\_e1wfc46.bin  
 IB\_FMr208c\_e1wfc90.bin  
 IB\_FMr208c\_e1wfc201.bin  
 IB\_FMr208c\_e1wfc203.bin  
 IB\_FMr208c\_e1wfc204.bin  
 IB\_FMr208c\_e1wfc206.bin  
 IB\_FMr208c\_e1wfc209.bin  
 IB\_FMr208c\_e1wfc210.bin  
 IB\_FMr208c\_e1wfc211.bin  
 IB\_FMr208c\_e1wfc227.bin  
 IB\_FMr208c\_e1wfc230.bin  
 IB\_FMr208c\_e1wfc546.bin  
 IB\_FMr208c\_e1wfc547.bin  
 IB\_FMr208c\_e1wfc548.bin  
 IB\_FMr208d\_e1wfa141.bin  
 IB\_FMr208d\_e1wfc208.bin  
 IB\_FMr208d\_e1wfc538.bin  
 IB\_FMr208d\_e1wfc540.bin  
 IB\_FMr208d\_e1wfc542.bin  
 IB\_FMr208d\_e1wfc549.bin  
 IB\_FMr208e\_e1wfc12.bin  
 IB\_FMr208e\_e1wfc13.bin  
 IB\_FMr208g\_e1wfc94.bin  
 IB\_FMr208i\_e1wfa58.bin  
 IB\_FMr208j\_e1wfa11.bin  
 IB\_FMr208j\_e1wfa105.bin  
 IB\_FMr208j\_e1wfa106.bin

IB\_FMr208j\_e1wfa107.bin  
 IB\_FMr208j\_e1wfa108.bin  
 IB\_FMr208j\_e1wfa109.bin  
 IB\_FMr208j\_e1wfc31.bin  
 IB\_FMr208j\_e1wfc89.bin  
 IB\_FMr208k\_e1wfa104.bin  
 IB\_FMr220\_e1wfa108.bin  
 IB\_FMr220\_e1wfr1121.bin  
 IB\_FMr220a\_e1wfc100.bin  
 IB\_FMr220a\_e1wfc101.bin  
 IB\_FMr220a\_e1wfc553.bin  
 IB\_FMr220a\_e1wfc555.bin  
 IB\_FMr220a\_e1wfr1119.bin  
 IB\_FMr220a\_e1wfr1120.bin  
 IB\_FMr220b\_e1wfr1119.bin  
 IB\_FMr220b\_e1wfr1120.bin  
 IB\_FMr220c\_e1wfr1191.bin  
 IB\_FMr230\_e1wfc14.bin  
 IB\_FMr230\_e1wfr143.bin  
 IB\_FMr230\_e1wfr1061.bin  
 IB\_FMr230a\_e1wfa153.bin  
 IB\_FMr230a\_e1wfc102.bin  
 IB\_FMr230a\_e1wfr1000.bin  
 IB\_FMr230a\_e1wfr1001.bin  
 IB\_FMr230a\_e1wfr1003.bin  
 IB\_FMr230a\_e1wfr1004.bin  
 IB\_FMr230a\_e1wfr1005.bin  
 IB\_FMr230a\_e1wfr1006.bin  
 IB\_FMr230a\_e1wfr1007.bin  
 IB\_FMr230a\_e1wfr1008.bin  
 IB\_FMr230a\_e1wfr1009.bin  
 IB\_FMr230a\_e1wfr1011.bin  
 IB\_FMr230a\_e1wfr1012.bin  
 IB\_FMr230a\_e1wfr1013.bin  
 IB\_FMr230a\_e1wfr1037.bin  
 IB\_FMr230b\_e1wfr1002.bin  
 IB\_FMr230b\_e1wfr1010.bin  
 IB\_FMr230b\_e1wfr1024.bin  
 IB\_FMr230c\_e1wfd204.bin  
 IB\_FMr230c\_e1wfr1022.bin  
 IB\_FMr230d\_e1wfa78.bin  
 IB\_FMr230d\_e1wfr1025.bin  
 IB\_FMr230d\_e1wfr1032.bin  
 IB\_FMr230f\_e1wfr1023.bin  
 IB\_FMr430\_e1wfr1070.bin  
 IB\_FMr430\_e1wfr1071.bin  
 IB\_FMr430\_e1wfr1072.bin  
 IB\_FMr430\_e1wfr1073.bin  
 IB\_FMr430\_e1wfr1074.bin

IB\_FMr430\_e1wfr1075.bin  
 IB\_FMr430\_e1wfr1080.bin  
 IB\_FMr430\_e1wfr1082.bin  
 IB\_FMr430\_e1wfr1083.bin  
 IB\_FMr430\_e1wfr1086.bin  
 IB\_FMr430\_e1wfr1087.bin  
 IB\_FMr430\_e1wfr1088.bin  
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 IB\_FMr430\_e1wfr1098.bin  
 IB\_FMr430\_e1wfr1099.bin  
 IB\_FMr430\_e1wfr1100.bin  
 IB\_FMr430\_e1wfr1101.bin  
 IB\_FMr430\_e1wfr1102.bin  
 IB\_FMr430\_e1wfr1152.bin  
 IB\_FMr430a\_e1wfr1081.bin  
 IB\_FMr430a\_e1wfr1085.bin  
 IB\_FMr440\_e1wfr1111.bin  
 IB\_FMr440\_e1wfr1112.bin  
 IB\_FMr440\_e1wfr1113.bin  
 IB\_FMr440\_e1wfr1114.bin  
 IB\_FMr440\_e1wfr1115.bin  
 IB\_FMr440\_e1wfr1243.bin  
 IB\_FMr440\_e1wfr1251.bin  
 IB\_FMr440\_e1wfr1252.bin  
 IB\_FMr440\_e1wfr1253.bin  
 IB\_FMr440\_e1wfr1254.bin  
 IB\_FMr440\_e1wfr1255.bin

FM-I94W-US24-  
 Loss-1222014\_e1\_101.1.bin

IB\_FMr440\_e1wfr1301.bin  
 IB\_FMr440\_e1wfr1302.bin  
 IB\_FMr440\_e1wfr1315.bin  
 IB\_FMr440\_e1wfr1332.bin  
 IB\_FMr440\_e1wfr1343.bin  
 IB\_FMr440\_e1wfr1345.bin  
 IB\_FMr440\_e1wfr1347.bin

IB\_FMr440\_e1wfr1360.bin  
IB\_FMr440\_e1wfr1362.bin  
IB\_FMr440\_e1wfr1503.bin  
IB\_FMr440a\_e1wfr1303.bin  
IB\_FMr440a\_e1wfr1304.bin  
IB\_FMr440a\_e1wfr1305.bin  
IB\_FMr440a\_e1wfr1314.bin  
IB\_FMr440a\_e1wfr1323.bin  
IB\_FMr440a\_e1wfr1331.bin  
IB\_FMr440a\_e1wfr1342.bin  
IB\_FMr440b\_e1wfr1300.bin  
IB\_FMr440b\_e1wfr1307.bin  
IB\_FMr440b\_e1wfr1326.bin

## 2.3 HD Radio Operation

There are three(3) ways to access(operate) your System

### 1. Standalone Operation

Connect USB monitor, Keyboard & Mouse to the H/W

Start->All Programs->©Lumantek->WeiverHDRadio->WeiverHDRadio exe.

### 2. Desktop PC or Network Operation

Install WeiverHDRadio program in Notebook/Desktop PC

Start->All Programs->©Lumantek->WeiverHDRadio->WeiverHDRadio exe.

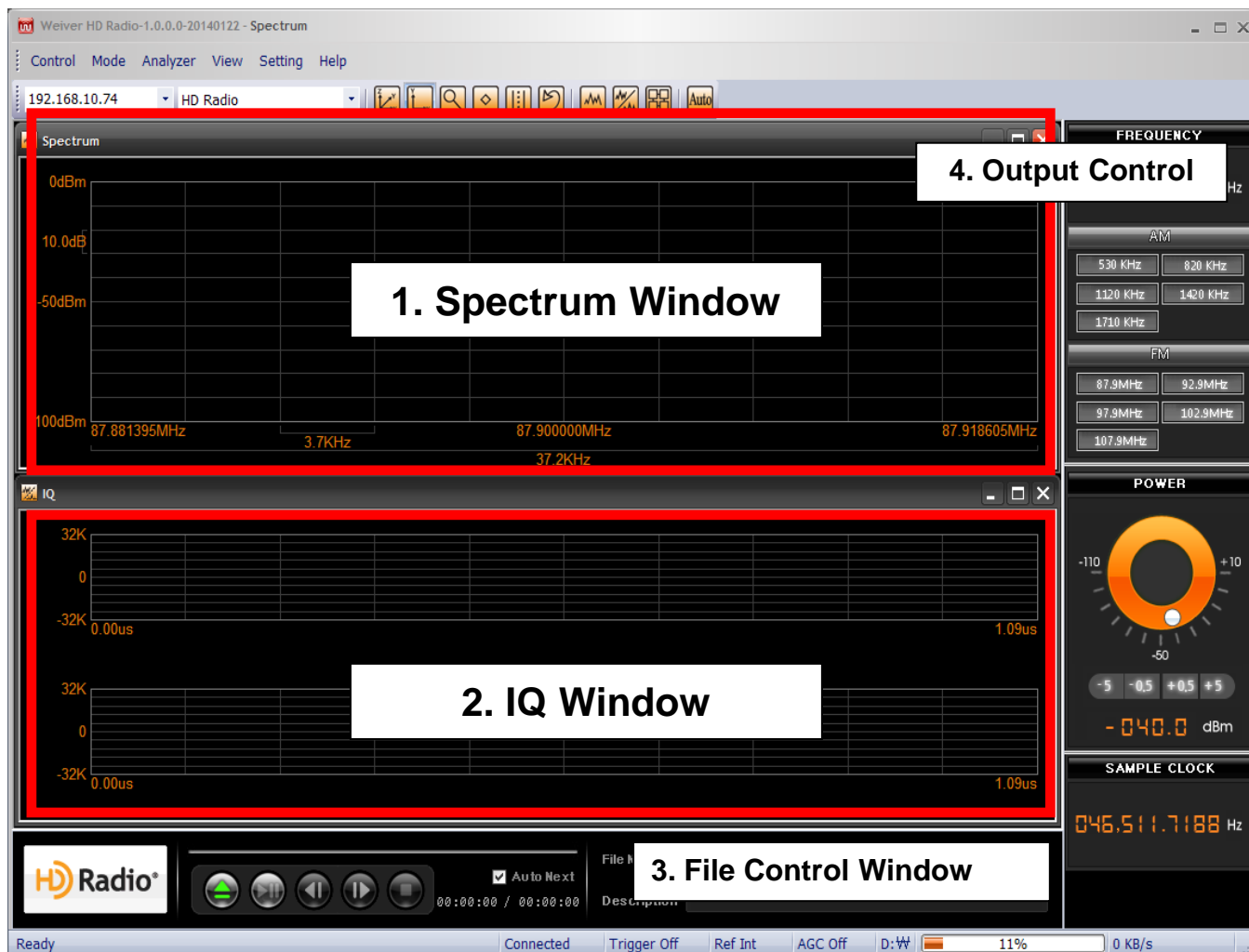
---

### How to Update WEIVER 2.0 System

Connect the WEIVER 2.0 to a laptop or desktop PC with both Microsoft Windows OS and the 'WeiverHDRADIO.exe' program installed. In case where system update is necessary, please have a monitor, keyboard and mouse ready.

Visit LUMANTEK online Download Center at <http://www.lumantek.com/support/> to download 'WeiverHDRADIO.exe' program. Double-click on the program icon will initiate the installation.

## 2.4 HD Radio UI

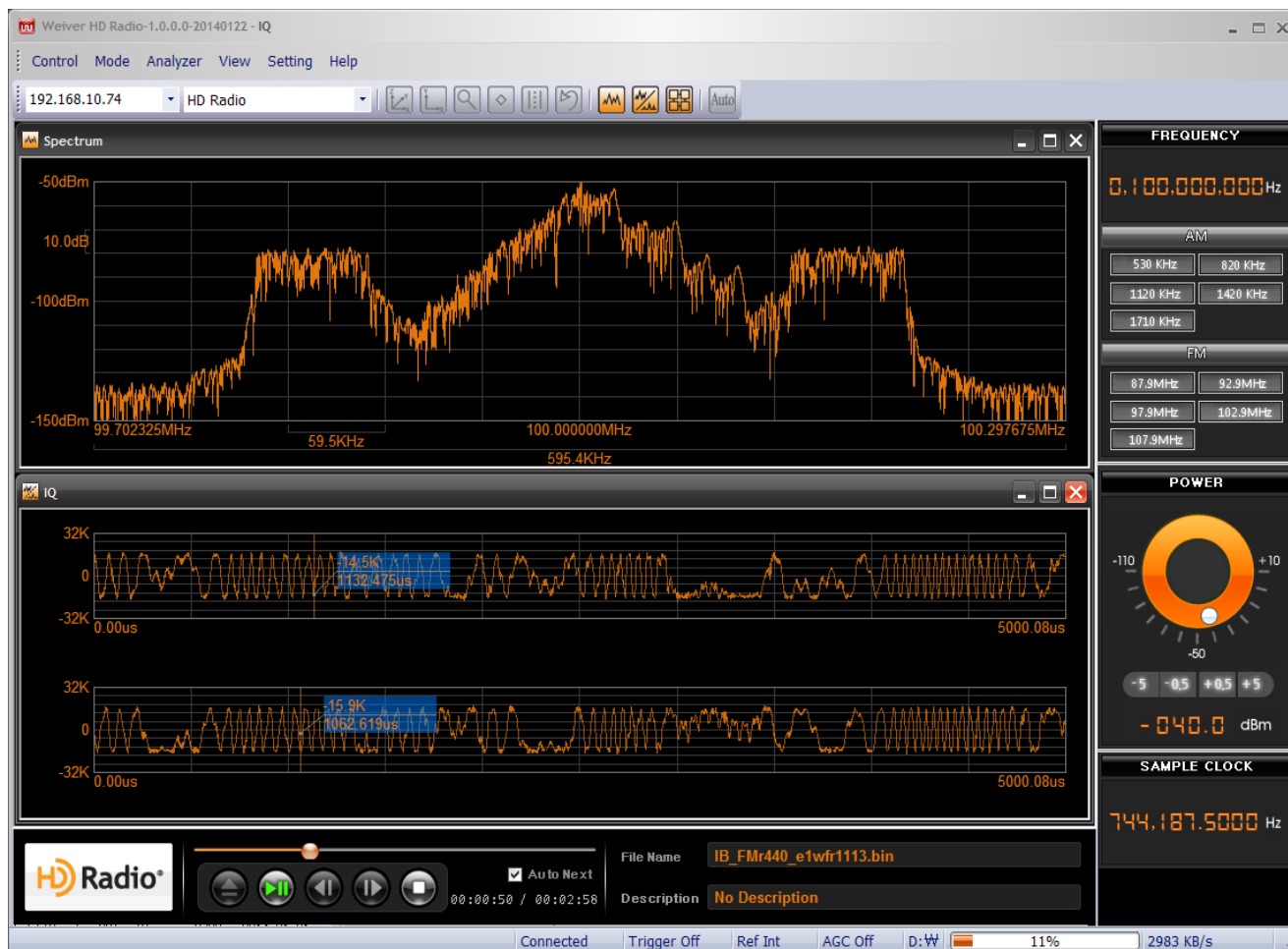


1. Spectrum Window - Showing spectrum of files currently under playback.
2. I/Q Window - Showing I(2Bytes), Q(2Byte) information of files currently under playback
3. File Control Window – showing current file name and description
4. Output Control - Adjust Frequency, Power, and Sample Clock.

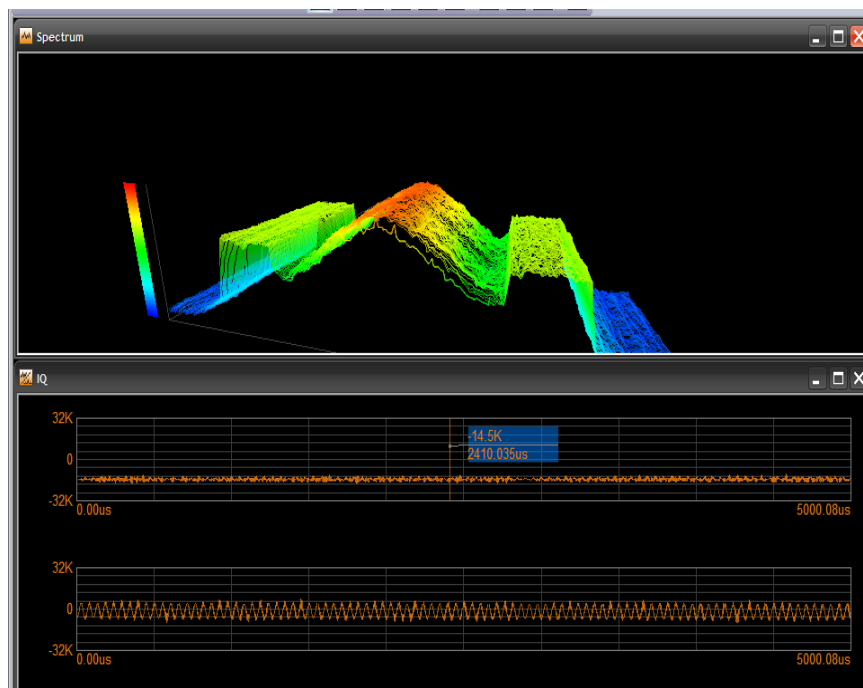


## 2.5 HD Radio screen capture

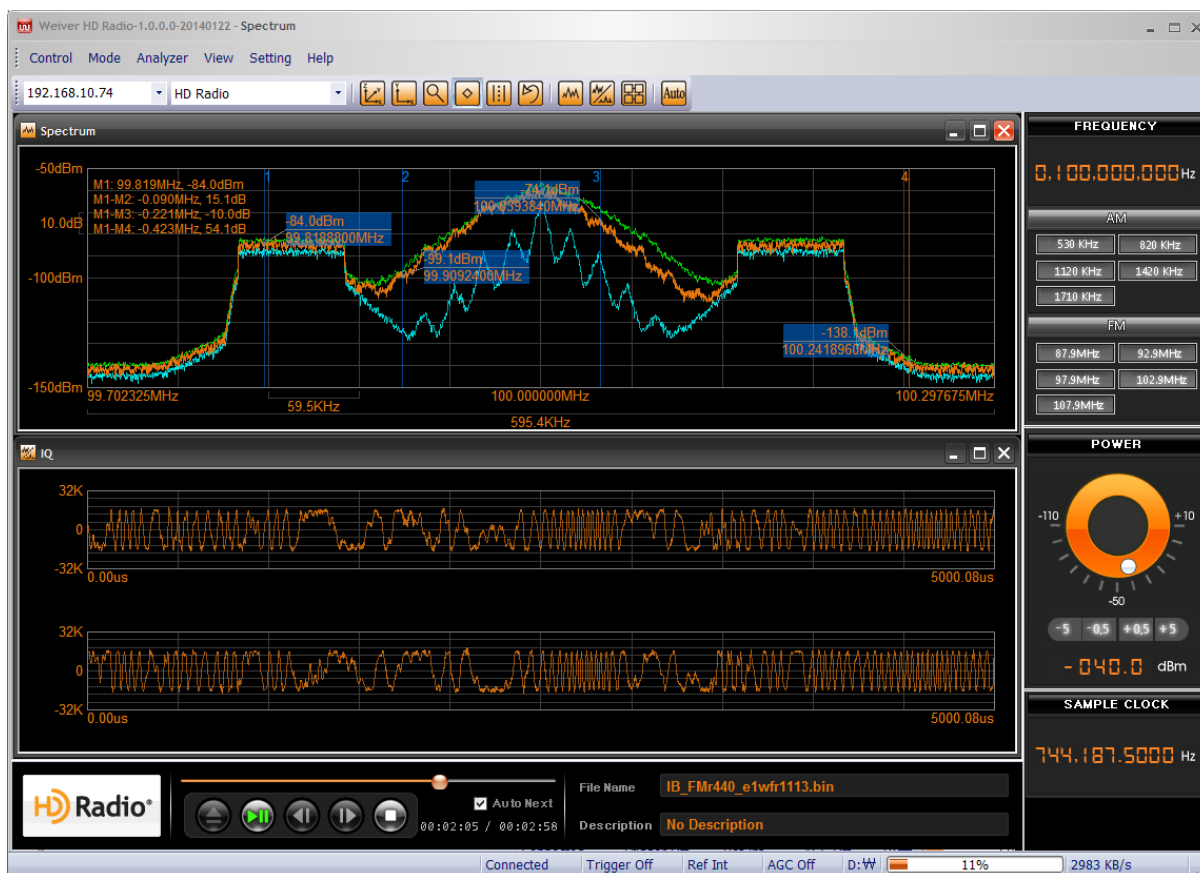
[2D Mode]



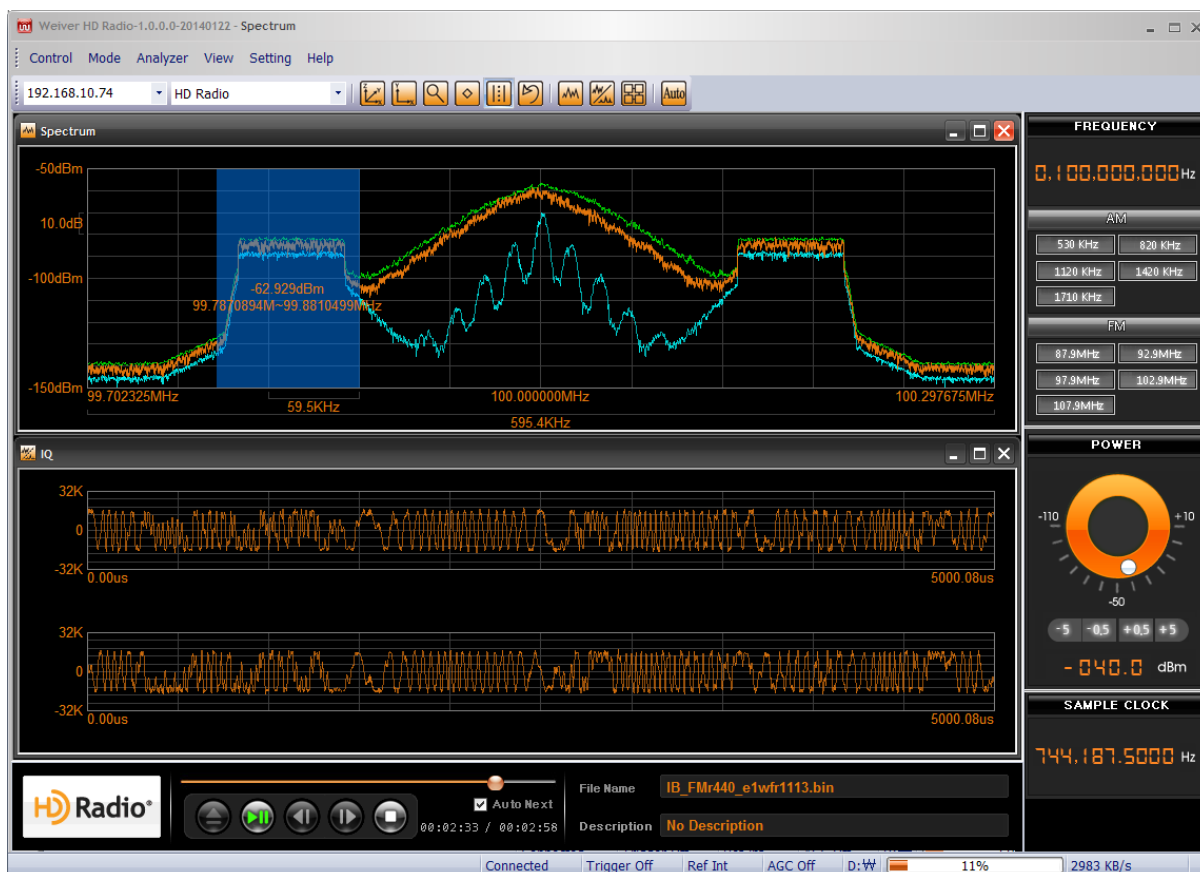
[3D Mode]



## [Markers and Minimum and Maximum]



## [Band Power]



## [AM]

Play Folder List

File Name	Waveform	File Power(dBm)	Description
<input type="checkbox"/> IB_Amr001_e1_cw_0_m10.bin	AM	-18.1	Two RF carriers; Freqoffset1 = 0 Hz; Freqoffset2 =
<input type="checkbox"/> IB_Amr001_e1_cw_2_6.bin	AM	-18.1	Two RF carriers; Freqoffset1 = +2 kHz; Freqoffset2 =
<input type="checkbox"/> IB_Amr001_e1_cw_m1_m2.bin	AM	-18.1	Two RF carriers; Freqoffset1 = -1 kHz; Freqoffset2 =
<input type="checkbox"/> IB_Amr001_e1_cw_m30_0_30.bin	AM	-19.9	Three RF carriers; Freqoffset1 = -30 kHz; Freqoffset2 =
<input type="checkbox"/> IB_Amr001_e1_cw_m7p5_10.bin	AM	-18.1	Two RF carriers; Freqoffset1 = -7.5 kHz; Freqoffset2 =
<input type="checkbox"/> IB_Amr201_e1awfc52.bin	AM	-21.7	MA1, music, blend control bits change from 01bin
<input type="checkbox"/> IB_Amr208a_e1awfb00.bin	AM	-22.2	MA1, analog source is pulsed USASI NOISE, digit
<input type="checkbox"/> IB_Amr208a_e1awfb138.bin	AM	-22.8	MA1, analog source is pulsed USASI NOISE, BER
<input type="checkbox"/> IB_Amr208a_e1awfc33.bin	AM	-21.3	MA1, stereo digital (left only) / mono analog, 4-kHz
<input type="checkbox"/> IB_Amr208a_e1awfc34.bin	AM	-21.4	MA1, stereo digital (right only) / mono analog, 4-kHz
<input type="checkbox"/> IB_Amr208c_e1awfa11.bin	AM	-21.6	MA1 audio mix, signal alternates between the followi
<input type="checkbox"/> IB_Amr208_e1awfa05.bin	AM	-22.1	MA1, audio mix, clean channel
<input type="checkbox"/> IB_Amr208_e1awfa07.bin	AM	-32.9	MA3, audio mix, clean channel
<input type="checkbox"/> IB_Amr208_e1awfa10.bin	AM	-20.7	MA1, AWGN audio source, clean channel
<input type="checkbox"/> IB_Amr208_e1awfb01.bin	AM	-31.8	MA3, BER test pattern, clean channel
<input type="checkbox"/> IB_Amr208_e1awfb02.bin	AM	-26.6	MA1, BER test pattern, GCS(triple highway overpa
<input type="checkbox"/> IB_Amr208_e1awfb03.bin	AM	-27.8	MA1, BER test pattern, GCS (double highway over
<input type="checkbox"/> IB_Amr208_e1awfb04.bin	AM	-32.8	MA3, BER test pattern, GCS (double highway over
<input type="checkbox"/> IB_Amr208_e1awfb05.bin	AM	-36.0	MA3, BER test pattern, GCS (highway overpass, s
<input type="checkbox"/> IB_Amr208_e1awfb102.bin	AM	-22.9	MA1, analog source is pulsed USASI NOISE, BER
<input type="checkbox"/> IB_Amr208_e1awfb104.bin	AM	-22.8	MA1, analog source is pulsed USASI NOISE, BER
<input type="checkbox"/> IB_Amr208_e1awfb111.bin	AM	-22.6	MA1, analog source is pulsed USASI NOISE, BER
<input type="checkbox"/> IB_Amr208_e1awfb113.bin	AM	-22.6	MA1, analog source is pulsed USASI NOISE, BER
<input type="checkbox"/> IB_Amr208_e1awfb119.bin	AM	-33.2	MA3, BER test pattern, C/No = 50 dB-Hz
<input type="checkbox"/> IB_Amr208_e1awfb121.bin	AM	-33.0	MA3, BER test pattern, C/No = 52 dB-Hz
<input type="checkbox"/> IB_Amr208_e1awfb124.bin	AM	-32.2	MA3, BER test pattern, C/No = 63 dB-Hz
<input type="checkbox"/> IB_Amr208_e1awfb126.bin	AM	-32.2	MA3, BER test pattern, C/No = 65 dB-Hz
<input type="checkbox"/> IB_Amr208_e1awfb128.bin	AM	-32.1	MA3, BER test pattern, C/No = 67 dB-Hz
<input type="checkbox"/> IB_Amr208_e1awfb130.bin	AM	-32.3	MA3, BER test pattern, C/No = 61 dB-Hz
<input type="checkbox"/> IB_Amr208_e1awfb131.bin	AM	-22.9	MA1, analog source is pulsed USASI NOISE, BER
<input type="checkbox"/> IB_Amr208_e1awfb132.bin	AM	-21.9	MA1, analog source is pulsed USASI NOISE, BER
<input type="checkbox"/> IB_Amr208_e1awfb134.bin	AM	-22.5	MA1, analog source is pulsed USASI NOISE, BER
<input type="checkbox"/> IB_Amr208_e1awfb135.bin	AM	-23.4	MA1, analog source is pulsed USASI NOISE, BER
<input type="checkbox"/> IB_Amr208_e1awfb145.bin	AM	-32.3	MA3, BER test pattern, C/No = 90 dB-Hz, hybrid lo
<input type="checkbox"/> IB_Amr208_e1awfb243.bin	AM	-32.5	MA3, BER test pattern, C/No = 90 dB-Hz, hybrid up
<input type="checkbox"/> IB_Amr208_e1awfc00.bin	AM	-21.9	MA1, stereo digital / mono analog, pulsed 125-Hz
<input type="checkbox"/> IB_Amr208_e1awfc04.bin	AM	-21.6	MA1, stereo digital / mono analog, 2.5-kHz bi-level
<input type="checkbox"/> IB_Amr208_e1awfc06.bin	AM	-21.3	MA1, stereo music, clean channel
<input type="checkbox"/> IB_Amr208_e1awfc08.bin	AM	-21.5	MA1, stereo digital / mono analog, 1-kHz tone with
<input type="checkbox"/> IB_Amr208_e1awfc10.bin	AM	-21.4	MA1, 1-kHz tone (left channel only), clean channel
<input type="checkbox"/> IB_Amr208_e1awfc11.bin	AM	-21.4	MA1, 1-kHz tone (right channel only), clean channel

## [FM]

Play Folder List

File Name	Waveform	File Power(dBm)	Description
<input type="checkbox"/> CC_Fmr430b_e1wfr0001.bin	FM	-15.4	Journaline® / HD-TMC
<input type="checkbox"/> IB_Fmr001_e1_cw_0_100.bin	FM	-15.4	Two RF carriers; Freqoffset1 = 0 Hz; Freqoffset2 =
<input type="checkbox"/> IB_Fmr001_e1_cw_0_m100.bin	FM	-15.4	Two RF carriers; Freqoffset1 = 0 Hz; Freqoffset2 =
<input type="checkbox"/> IB_Fmr001_e1_cw_0_m200.bin	FM	-15.4	Two RF carriers; Freqoffset1 = 0 Hz; Freqoffset2 =
<input type="checkbox"/> IB_Fmr001_e1_cw_10_20.bin	FM	-15.4	Two RF carriers; Freqoffset1 = +10 kHz; Freqoffset2 =
<input type="checkbox"/> IB_Fmr001_e1_cw_50_100.bin	FM	-15.4	Two RF carriers; Freqoffset1 = +50 kHz; Freqoffset2 =
<input type="checkbox"/> IB_Fmr001_e1_cw_m275_0_275.bin	FM	-17.2	Three RF carriers; Freqoffset1 = -275 kHz; Freqoffset2 =
<input type="checkbox"/> IB_Fmr001_e1_cw_m50_0.bin	FM	-15.4	Two RF carriers; Freqoffset1 = -50 kHz; Freqoffset2 =
<input type="checkbox"/> IB_Fmr001_e1_cw_m80_m90.bin	FM	-15.4	Two RF carriers; Freqoffset1 = -80 kHz; Freqoffset2 =
<input type="checkbox"/> IB_Fmr201_e1wfc52.bin	FM	-14.1	MP1, music, blend control bits change from 01bin
<input type="checkbox"/> IB_Fmr208c_e1wfa05.bin	FM	-14.1	MP1, audio mix, clean channel
<input type="checkbox"/> IB_Fmr208c_e1wfa25.bin	FM	-19.6	MP6, audio mix, clean channel
<input type="checkbox"/> IB_Fmr208c_e1wfa98.bin	FM	-15.8	Modulated analog FM only, continuous stereo 1-kHz
<input type="checkbox"/> IB_Fmr208c_e1wfa99.bin	FM	-12.4	Modulated analog FM only, stereo music, clean channel
<input type="checkbox"/> IB_Fmr208c_e1wfc00.bin	FM	-14.1	MP1, stereo pulsed 125-Hz tone (active 0.37 seconds)
<input type="checkbox"/> IB_Fmr208c_e1wfc03.bin	FM	-14.1	MP1, stereo 4-kHz bi-level tone with calibrated analog and
<input type="checkbox"/> IB_Fmr208c_e1wfc08.bin	FM	-14.0	MP1, stereo 1-kHz tone with calibrated analog and
<input type="checkbox"/> IB_Fmr208c_e1wfc09.bin	FM	-14.1	MP1, 1-kHz tone (left channel only), clean channel
<input type="checkbox"/> IB_Fmr208c_e1wfc10.bin	FM	-14.1	MP1, 1-kHz tone (right channel only), clean channel
<input type="checkbox"/> IB_Fmr208c_e1wfc201.bin	FM	-17.5	MP1, analog source is audio mix, BER test pattern
<input type="checkbox"/> IB_Fmr208c_e1wfc203.bin	FM	-16.7	MP1, analog source is audio mix, BER test pattern
<input type="checkbox"/> IB_Fmr208c_e1wfc204.bin	FM	-14.1	MP1, analog source is audio mix, BER test pattern
<input type="checkbox"/> IB_Fmr208c_e1wfc206.bin	FM	-26.3	MP1, analog source is audio mix, BER test pattern
<input type="checkbox"/> IB_Fmr208c_e1wfc209.bin	FM	-26.5	MP1, analog source is audio mix, BER test pattern
<input type="checkbox"/> IB_Fmr208c_e1wfc210.bin	FM	-17.6	MP1, BER test pattern
<input type="checkbox"/> IB_Fmr208c_e1wfc211.bin	FM	-17.5	MP1, analog source is audio mix, BER test pattern
<input type="checkbox"/> IB_Fmr208c_e1wfc227.bin	FM	-28.8	MP1, analog source is audio mix, BER test pattern
<input type="checkbox"/> IB_Fmr208c_e1wfc230.bin	FM	-29.0	MP1, analog source is audio mix, BER test pattern
<input type="checkbox"/> IB_Fmr208c_e1wfc27.bin	FM	-14.1	MP1, stereo 1-kHz tone with calibrated analog and
<input type="checkbox"/> IB_Fmr208c_e1wfc28.bin	FM	-14.0	MP1, stereo 1-kHz tone with calibrated analog and
<input type="checkbox"/> IB_Fmr208c_e1wfc30.bin	FM	-14.1	MP1, analog audio is silence, digital audio is 1-kHz
<input type="checkbox"/> IB_Fmr208c_e1wfc46.bin	FM	-19.3	MP6, BER test pattern, clean channel
<input type="checkbox"/> IB_Fmr208c_e1wfc546.bin	FM	-29.0	MP5, BER test pattern, Cd/No = 56 dB-Hz, urban f
<input type="checkbox"/> IB_Fmr208c_e1wfc547.bin	FM	-29.6	MP5, BER test pattern, Cd/No = 57 dB-Hz, urban f
<input type="checkbox"/> IB_Fmr208c_e1wfc548.bin	FM	-30.4	MP5, BER test pattern, Cd/No = 59 dB-Hz, urban f
<input type="checkbox"/> IB_Fmr208c_e1wfc90.bin	FM	-16.7	MP1; Analog audio is silence, digital audio is 1-kHz
<input type="checkbox"/> IB_Fmr208d_e1wfa141.bin	FM	-14.7	MP1, 3 programs; Prog 1: on P1, rate changes, 52
<input type="checkbox"/> IB_Fmr208d_e1wfc208.bin	FM	-26.5	MP1, analog source is audio mix, BER test pattern
<input type="checkbox"/> IB_Fmr208d_e1wfc538.bin	FM	-24.9	MP5, BER test pattern, Cd/No = 53 dB-Hz
<input type="checkbox"/> IB_Fmr208d_e1wfc540.bin	FM	-24.9	MP5, BER test pattern, Cd/No = 55 dB-Hz
<input type="checkbox"/> IB_Fmr208d_e1wfc542.bin	FM	-24.9	MP5, BER test pattern, Cd/No = 57 dB-Hz
<input type="checkbox"/> IB_Fmr208d_e1wfc549.bin	FM	-30.7	MP5, BER test pattern, Cd/No = 60 dB-Hz, urban f

Update Open Files

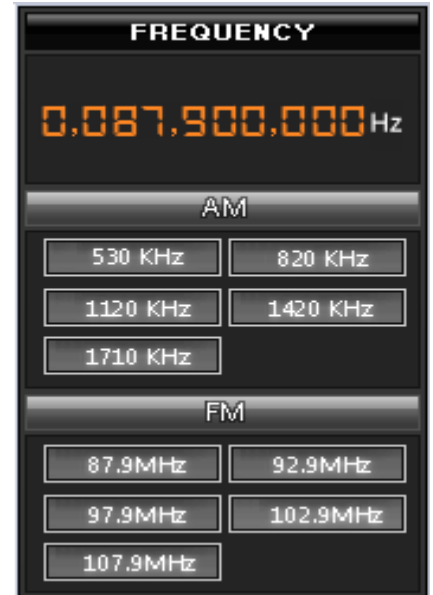
## 2.6 HD Radio Setting

- [Weiver HD Radio Frequency Setting]

**Adjustable Range :** 100KHz ~ 200MHz

### How to Change

- Click on the number section, adjust the frequency with mouse wheel or keyboard arrow buttons
- Click on pre-selected AM, FM Frequency icon



- [Weiver HD Radio Power Setting]

**Adjustable Range :** -110dBm~+10dBm

It depend on the power level of each AM/FM Vector files which have different Max/Min level. Max(+10dBm)/Min (-110dBm) may not be applicable to some of the files

### How to Change

- Click on the number section, adjust the power level with mouse wheel or keyboard arrow buttons
- Click on the White button on UI and scroll
- Click on pre-selected ranges, -5, -0.5, +0.5, +5



- [Weiver HD Radio Sample Clock Setting]

### AM/FM Default Sample Clock

AM: 46511.7188 Hz

FM: 744187.5 Hz

### Adjustable Range

AM: 46558.2305 Hz~46558.2305 Hz

FM: 743443.3125 Hz~744931.6875 Hz

### How to Change

Click on the number section, adjust the with mouse wheel or keyboard arrow buttons



## **WEIVER 2.0 / WEIVER Player API for HD Radio Vector Signal Generator**

### **- Summary**

There are Three (3) ways to control both Weiver & WeiverPlayer

1. with keypad control for 'WeiverPlayer'
2. with 'WeiverEx' Software
3. with 'API'

#1 and #2 above are the general control method,

#3 is to control the system with command via UDP packet.

API control is supported for 'Weiver 1.0', 'Weiver Player 1.0', 'Weiver 2.0' and 'Weiver Player 2.0'

Supported in 'Playback' mode ONLY. (Not supported for 'Recording')

HD Radio™ is supported with 'Weiver 2.0' and 'Weiver Player 2.0' system ONLY.

### 3.1 Principle of Weiver/ WeiverPlayer API

‘WeiverEx’ software connects with ‘Weiver/ WeiverPlayer’ software via IP, control the system with UDP packets. Since the main purpose of utilizing the API is to control the ‘Weiver/ WeiverPlayer’ system without the ‘WeiverEx’ program, this documentation will open sample API programs with its packet data information.

You may download reference sources on Lumantek website at [www.lumantek.com](http://www.lumantek.com)

Following is the API packet structure for ‘Weiver/WeiverPlayer’. (Reference: WvPlayerRemoteAPI.h)

```
#define WEIVER_PLAYER_ID 0x057b50b7
#define WEIVER_PLAYER_API_RX_PORT 50504

#define REMOTE_STRING_SUCCESS_T("Received")
#define REMOTE_STRING_INVALIDE_PARAM_T("Invalid Param")

typedef enum _WvPlayerRemoteCMD_e
{
    WV_PLAYER_REMOTE_CMD_SET_STRING,
    WV_PLAYER_REMOTE_CMD_MAX
}WvPlayerRemoteCMD_t;

typedef struct _WvPlayerRemotePacket_t
{
    unsigned int u4_ID;// WEIVER_PLAYER_ID
    unsigned int u4_Reserved;//WV_PLAYER_REMOTE_CMD_SET_STRING
    unsigned int u4_DataSize;
    unsigned char u1a_Data[1000];
}WvPlayerRemotePacket_t, *WvPlayerRemotePacket_tp;
```

UDP port: 50504 is left open to support API with ‘Weiver/WeiverPlayer’.

The ‘Weiver/Weiverplayer’ executes certain commands when the ‘WvPlayerRemotePacket’ structure data is received.

The opened ‘Source’ is the sample window programs. (May applicable to the other types of the OS)

Before moving into the command list description, the sample program ‘WeiverPlayerRemoteAPI.exe’ uses following five (5) assumptions.

Assumption 1: IP address for ‘Weiver/WeiverPlayer’ is 192.168.100.1.

Assumption 2: Port left open for API support ‘Weiver/WeiverPlayer’ is 50504 (fixed)

Assumption 3: Port left open for UDP reception is 50000. (Vary)

Assumption 4: Each characters have 2byte in its size.

Assumption 5: The ‘Time Out’ will occur if UDP gets no response after its transmission.

### 3.2 Data Packet Structure

'WeiverEx' software connects with 'Weiver/ WeiverPlayer' software via IP, control the system with UDP packets. Since the main purpose of utilizing the API is to control the 'Weiver/ WeiverPlayer' system without the 'WeiverEx' program, this documentation will open sample API programs with its packet data information.

connect 50000

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	26	L"connect 50000"
Size(Byte)	4	4	4	13x2

disconnect

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	20	L"disconnect"
Size(Byte)	4	4	4	10x2

rescandisk

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	20	L"rescandisk"
Size(Byte)	4	4	4	10x2

openfile test.wpj

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	34	L"openfile test.wpj"
Size(Byte)	4	4	4	17x2

get openfile

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	24	L"get openfile"
Size(Byte)	4	4	4	12x2

play start

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	20	L"play start"
Size(Byte)	4	4	4	10x2

play stop

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	18	L"play stop"
Size(Byte)	4	4	4	9x2



## play pause

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	20	L"play pause"
Size(Byte)	4	4	4	10x2

## play resume

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	22	L" play resume"
Size(Byte)	4	4	4	11x2

## get play\_status

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	30	L"get play_status"
Size(Byte)	4	4	4	15x2

## set freq 400000000

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	36	L"set freq 400000000"
Size(Byte)	4	4	4	18x2

## set freq 400000000 hz

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	42	L"set freq 400000000 hz"
Size(Byte)	4	4	4	21x2

## set freq 400000 khz

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	38	L"set freq 400000 khz"
Size(Byte)	4	4	4	19x2

## set freq 400 mhz

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	32	L"set freq 400 mhz"
Size(Byte)	4	4	4	16x2

## get freq

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	16	L"get freq"
Size(Byte)	4	4	4	8x2

## get gain\_min

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	24	L"get gain_min"
Size(Byte)	4	4	4	12x2

## get gain\_max

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	24	L"get gain_max"
Size(Byte)	4	4	4	12x2

## get gain

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	16	L“get gain”
Size(Byte)	4	4	4	8x2

## get rf\_out\_level 1

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	36	L“get rf_out_level 1”
Size(Byte)	4	4	4	18x2

## set gain 100

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	24	L“set gain 100”
Size(Byte)	4	4	4	12x2

## set gain -100

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	26	L“set gain -100”
Size(Byte)	4	4	4	13x2

## get play\_time\_total

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	38	L“get play_time_total”
Size(Byte)	4	4	4	19x2

## get play\_time\_current

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	42	L“get play_time_current”
Size(Byte)	4	4	4	21x2

## set play\_time\_current 5

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	46	L“set play_time_current 5”
Size(Byte)	4	4	4	23x2

## get play\_section

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	32	L“get play_section”
Size(Byte)	4	4	4	16x2

## set play\_section 10 20

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	44	L“set play_section 10 20”
Size(Byte)	4	4	4	22x2

## get spec\_inv

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	24	L“get spec_inv”
Size(Byte)	4	4	4	12x2

## set spec\_inv off

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	32	L"set spec_inv off"
Size(Byte)	4	4	4	16x2

## set spec\_inv on

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	30	L"set spec_inv on"
Size(Byte)	4	4	4	15x2

## get sample\_rate

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	30	L"get sample_rate"
Size(Byte)	4	4	4	15x2

## set sample\_rate 10000000

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	48	L"set sample_rate 10000000"
Size(Byte)	4	4	4	24x2

## set sample\_rate 10000000 hz

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	54	L"set sample_rate 10000000 hz"
Size(Byte)	4	4	4	27x2

## set sample\_rate 10 mhz

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	44	L"set sample_rate 10 mhz"
Size(Byte)	4	4	4	22x2

## set sample\_rate 10000 khz

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	54	L"set sample_rate 10000 khz"
Size(Byte)	4	4	4	27x2

## set trigger\_out\_level low

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	50	L"set trigger_out_level low"
Size(Byte)	4	4	4	25x2

## set trigger\_out\_level high

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	52	L"set trigger_out_level low"
Size(Byte)	4	4	4	26x2

## get trigger\_out\_level

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	42	L"get trigger_out_level"
Size(Byte)	4	4	4	21x2

## set extclk off

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	28	L“set extclk off”
Size(Byte)	4	4	4	14x2

## set extclk on

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	26	L“set extclk on”
Size(Byte)	4	4	4	13x2

## get extclk

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	20	L“get extclk”
Size(Byte)	4	4	4	10x2

## get trigger\_in

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	28	L“get trigger_in”
Size(Byte)	4	4	4	14x2

## set trigger\_in off

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	36	L“set trigger_in off”
Size(Byte)	4	4	4	18x2

## set trigger\_in on

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	34	L“set trigger_in on”
Size(Byte)	4	4	4	17x2

## set current\_directory d:\

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	50	L“set current_directory d:\”
Size(Byte)	4	4	4	25x2

## set current\_directory d:\WeiverData

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	70	L“set current_directory d:\WeiverData”
Size(Byte)	4	4	4	35x2

## get current\_directory

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	42	L“get current_directory”
Size(Byte)	4	4	4	21x2

## get file\_count

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	28	L“get file_count”
Size(Byte)	4	4	4	14x2

## get filename 0

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	28	L“get filename 0”
Size(Byte)	4	4	4	14x2

## get folder\_count

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	32	L“get folder_count”
Size(Byte)	4	4	4	16x2

## get foldername 0

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	32	L“get foldername 0”
Size(Byte)	4	4	4	16x2

## set power -200

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	28	L“set power -200”
Size(Byte)	4	4	4	14x2

## get power

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	18	L“get power”
Size(Byte)	4	4	4	9x2

## get power\_min

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	26	L“get power_min”
Size(Byte)	4	4	4	13x2

## get power\_max

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	26	L“get power_max”
Size(Byte)	4	4	4	13x2

## get freq\_min

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	24	L“get freq_min”
Size(Byte)	4	4	4	12x2

## get freq\_max

Type	ID	Reserved	Data Size	Data
Data	0x057b50b7	0	24	L“get freq_max”
Size(Byte)	4	4	4	12x2

### 3.3 Command

Command	connect <parameter>
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	To connect with the device <Parameter> temporary port number. Ex) To send the response from Weiver system, 'connect 50000' command sends UDP packets to the 50000 port. If the System is being controlled by either 'WeiverEx' or 'HD Radio™ S/W', the 'connect' command will fail. When 'connect' command fails, it transmits 'connect' command after sending 'disconnect' command first. The temporarily opened port number information must be saved.

Command	Disconnect
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Command disconnecting from the device. RF transmission will be terminated automatically.

Command	rescandisk
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Rescanning the disk drive connected to the device.

Command	openfile <parameter>
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	<p>Open (select) the file for the playback. &lt;Parameter&gt; is a sample (temporary) file name. Move to the folder where the playback file is located before executing 'openfile' command. Please refer to 'set current_directory' for folder location commands 'openfile' fails if the system is under 'play' status. To stop 'play', please refer the commands list for 'play'. For Weiver file, it automatically configures (sets) center frequency and power level at the time of recording. Please refer to the 'set freq' and 'set gain' commands list to adjust center frequency and power level of the Weiver file. For HD Radio™ FM file, it automatically configures (sets) frequency at 87.9MHz, power level at its distinct level. For HD Radio™ AM file, it automatically configures (sets) frequency 830KHz, power level at its distinct level. Please refer to the 'set freq' and 'set power' commands list for HD Radio™ file center frequency and power level adjustment.</p>

Command	get openfile
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Get information of file names that is currently being opened.

Commmand	play start play stop play pause play resume
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	play start : Start RF Transmission. play stop : Stop RF Transmission. play pause : Pause RF Transmission. play resume : Resume RF Transmission. Use 'play' commands after entering 'openfile' commands.



Command	get play_status
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Get status information of 'play'.

Command	set freq <parameter> set freq <parameter> hz set freq <parameter> khz set freq <parameter> mhz
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Set the frequency of the device. <parameter> is temporary(sample) frequency. No specific adjustment is necessary since 'openfile' commands automatically configures its sample and center frequency. Use 'set freq' commands to configure frequency for 'HD Radio™' file, the frequency automatically sets at 87.9MHz for FM and 830KHz for AM respectively.
Command	get freq
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Get the frequency information of the device.

Command	set gain <parameter>
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : X
Description	Commands for adjusting the RF transmission power of the device. <parameter> is a temporary(sample) gain value. <parameter> is 100 when +10.0 dB gain is applied. <parameter> is -123 when -12.3 dB gain is applied. HD Radio™ files NOT supported. Please refer to the 'set power' command list for HD Radio™ files.

Command	get gain get gain_min get gain_max
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : X
Description	get gain : get gain information of the RF transmission. get gain_min : get the minimum gain information of the RF transmission. get gain_max : get the maximum gain information of the RF transmission. It is -12.3 dB when gain information is -123. HD Radio™ files NOT supported Please refer to the 'set power' command for HD Radio™ files.

Command	get rf_out_level <parameter>
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : X
Description	Get information of RF output power. <parameter> is a temporary(sample) time value (in seconds). The time value must be less than its total time. It is -12.3 dB when gain information is -123. Please refer to 'get play_time_total' commands for total time of the file. HD Radio™ files NOT supported Please refer to the 'get power' command list for HD Radio™ files.

Command	set play_time_current <parameter>
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Command configures (sets) the starting point of the 'play' file by seconds. <parameter> is a temporary(sample) time value (in seconds).

Command	get play_time_total get play_time_current
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	get play_time_total : get information of the file size that is currently being played by its seconds. get play_time_current : get information of the file location that is currently being played by its seconds.

Command	set play_section <parameter1> <parameter2>
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : X
Description	Command configure (sets) the 'Loop' playback function. <parameter1> is temporary (sample) loop starting point time (in seconds) value. <parameter2> is temporary (sample) loop ending point time (in seconds) value.

Command	get play_section
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : X
Description	Get time value information of loop segments.

Command	set spec_inv off set spec_inv on
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
description	set spec_inv off : transmission without inverse. (left/right) set spec_inv on : transmission with inverse. (left/right)

Command	get spec_inv
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	get spec_inv : get information of spectrum inverse value.

Command	set sample_rate <parameter> set sample_rate <parameter> hz set sample_rate <parameter> khz set sample_rate <parameter> mhz
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : X
Description	Command for sample frequency adjustment. <parameter> is a temporary(sample) frequency. 'openfile' command automatically configures (sets) center frequency and power level at the time of recording. NO specific adjustment necessary.

Command	get sample_rate
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : X
Description	Get information of the sample frequency.

Command	set trigger_out_level low set trigger_out_level high get trigger_out_level
Support	Weiver 1.0 : X Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Command for output control of 'Trigger Out' port. set trigger_out_level low : Low Level(0V) output. set trigger_out_level high : High Level(3.3V) output. get trigger_out_level : Get information on status of 'Trigger Out' port.

Command	set extclk off set extclk on get extclk
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Command for configuration of external/internal 10MHz synchronization. set extclk off : Use internal 10MHz. set extclk on : Use external 10MHz. get extclk : Get information on status of 10MHz sync status.

Command	set trigger_in off set trigger_in on get trigger_in
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Operation control command for number of devices by output level of 'Trigger In Port'. set trigger_in off : Operates regardless of 'Trigger In Port' input level. set trigger_in on : Operates only when 'Trigger In Port' Level is High(3.3v) get trigger_in : Get information on status of operation based on sync status.

Command	set current_directory <parameter>
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Command for designate the folder where the device file is located. <parameter> is absolute path name of the folder. Please change the folder before using 'openfile' command.

Command	get current_directory
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Get information on current device folder.

Command	get file_count
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Get information on number of Weiver and HD Radio™ files in current device.

Command	get filename <parameter>
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Get information on file names of Weiver and HD Radio™ of appropriate index among retrieved file list of current device folder. <parameter> Designate Index of the file list. The value of Index must be less than value of 'get file_count' command.

Command	get folder_count
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Change the number of sub-folders in device folder.

Command	get foldername <parameter>
Support	Weiver 1.0 : O Weiver Player 1.0 : O Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	Get information on name of sub-folders in current device folder. <parameter> Designate Index of the folder. The value of Index must be less than value of 'get folder_count' command.

Command	set power <parameter>
Support	Weiver 1.0 : X Weiver Player 1.0 : X Weiver 2.0 : X Weiver Player 2.0 : X HD Radio™ : O
Description	Command for HD Radio™ RF transmission power control. <parameter> is a temporary(sample) value. <parameter> is -205 when power -20.5 dBm is applied. <parameter> is -432 when gain -43.2 dBm is applied.

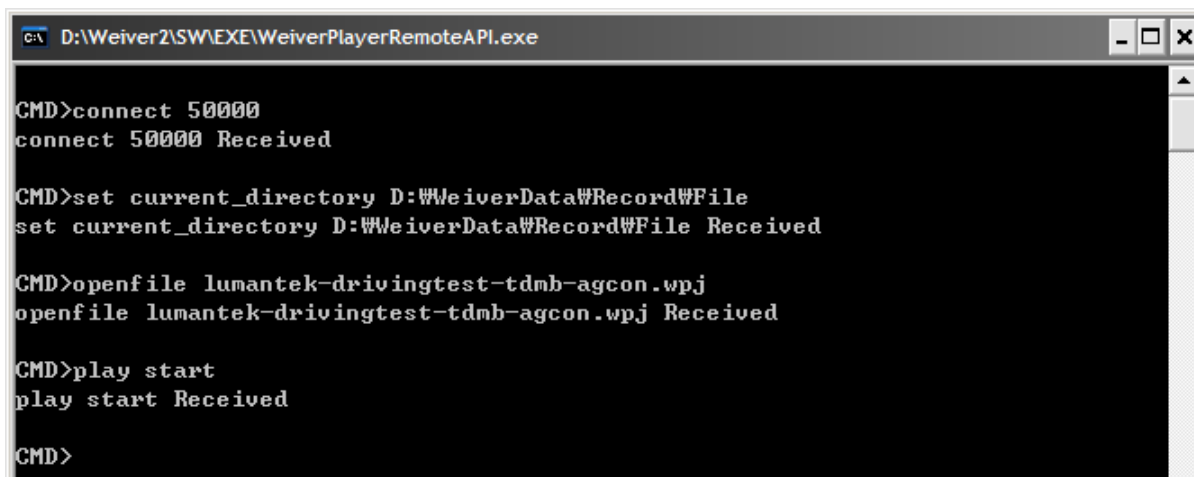
Command	get power get power_min get power_max
Support	Weiver 1.0 : X Weiver Player 1.0 : X Weiver 2.0 : X Weiver Player 2.0 : X HD Radio™ : O
Description	get power : get information on HD Radio™ RF transmission power. get power_min : get information on the min. HD Radio™ RF transmission power. get power_max : get information on the max. HD Radio™ RF transmission power. Transmission power is -20.5 dBm when return value is -205. Transmission power is -43.2 dBm when return value is -423.

Command	get freq_min get freq_max
Support	Weiver 1.0 : X Weiver Player 1.0 : X Weiver 2.0 : O Weiver Player 2.0 : O HD Radio™ : O
Description	get freq_min : get the information on minimum frequency value of the device. get freq_max : get the information on maximum frequency value of the device.

### 3.4 Example

#### [Example: Play Weiver file]

```
connect 50000
set current_directory D:\WeiverData\Record\File
openfile lumantek-drivingtest-tdmb-agcon.wpj
play start
```



```
C:\D:\Weiver2\SW\EXE\WeiverPlayerRemoteAPI.exe

CMD>connect 50000
connect 50000 Received

CMD>set current_directory D:\WeiverData\Record\File
set current_directory D:\WeiverData\Record\File Received

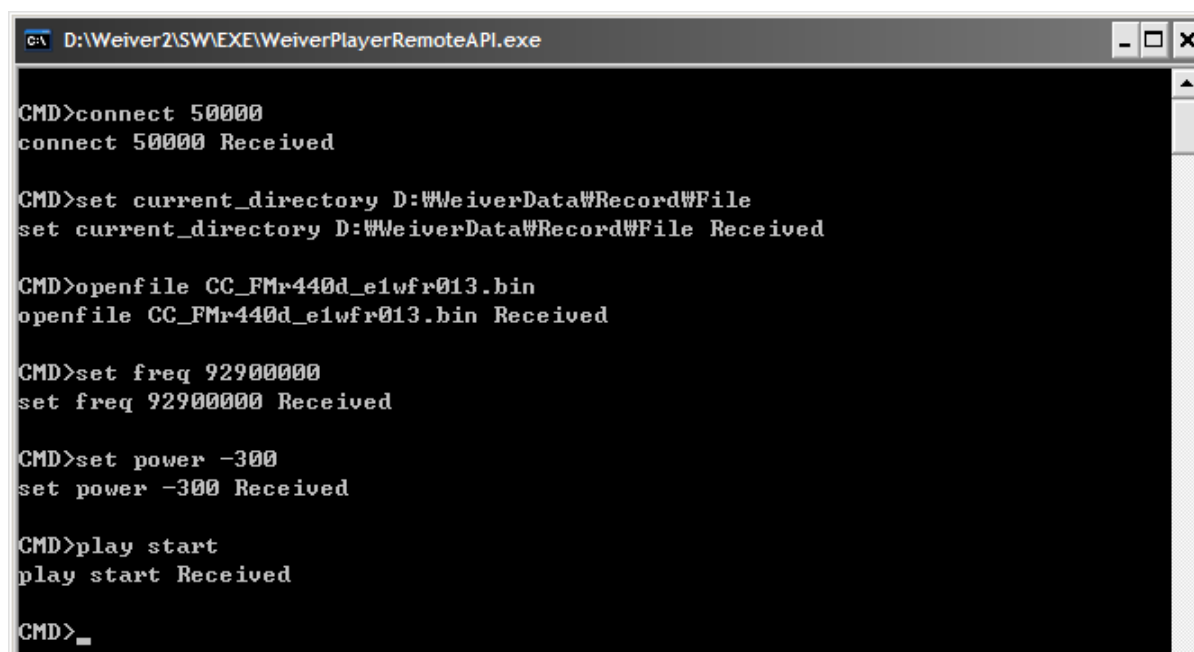
CMD>openfile lumantek-drivingtest-tdmb-agcon.wpj
openfile lumantek-drivingtest-tdmb-agcon.wpj Received

CMD>play start
play start Received

CMD>
```

#### [Example: Play HD Radio™ FM file]

```
connect 50000
set current_directory D:\WeiverData\Record\File
openfile CC_FMr440d_e1wfr013.bin
set freq 92900000
set power -300
play start
```



```
C:\D:\Weiver2\SW\EXE\WeiverPlayerRemoteAPI.exe

CMD>connect 50000
connect 50000 Received

CMD>set current_directory D:\WeiverData\Record\File
set current_directory D:\WeiverData\Record\File Received

CMD>openfile CC_FMr440d_e1wfr013.bin
openfile CC_FMr440d_e1wfr013.bin Received

CMD>set freq 92900000
set freq 92900000 Received

CMD>set power -300
set power -300 Received

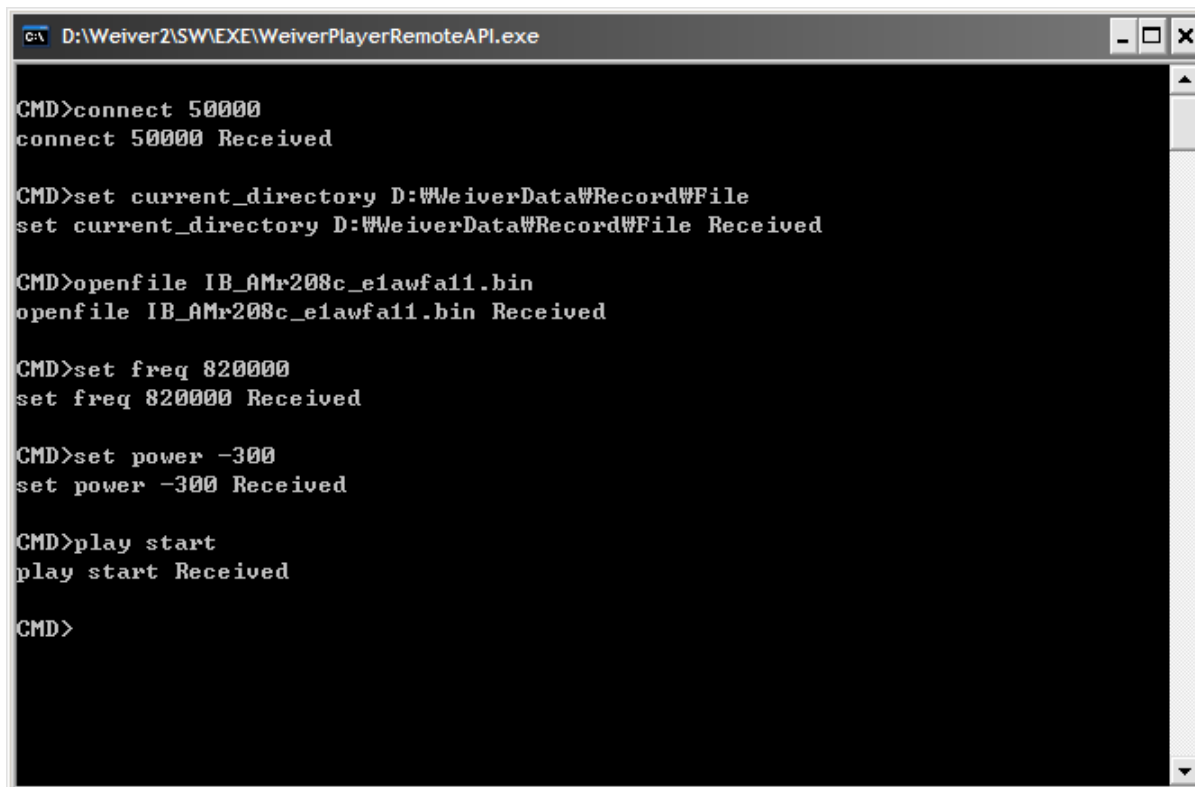
CMD>play start
play start Received

CMD>_
```



**[Example : Play HD Radio™ AM files]**

```
connect 50000
set current_directory D:\WeiverData\Record\File
openfile IB_AMr208c_e1awfa11.bin
set freq 820000
set power -300
play start
```



```
CMD>connect 50000
connect 50000 Received

CMD>set current_directory D:\WeiverData\Record\File
set current_directory D:\WeiverData\Record\File Received

CMD>openfile IB_AMr208c_e1awfa11.bin
openfile IB_AMr208c_e1awfa11.bin Received

CMD>set freq 820000
set freq 820000 Received

CMD>set power -300
set power -300 Received

CMD>play start
play start Received

CMD>
```

**[Command examples]**

'connect' and 'disconnect' command

- How to use

'connect port number' : Port number is the number of port where the response will be received after sending the packets.

'disconnect' : Terminate the connection

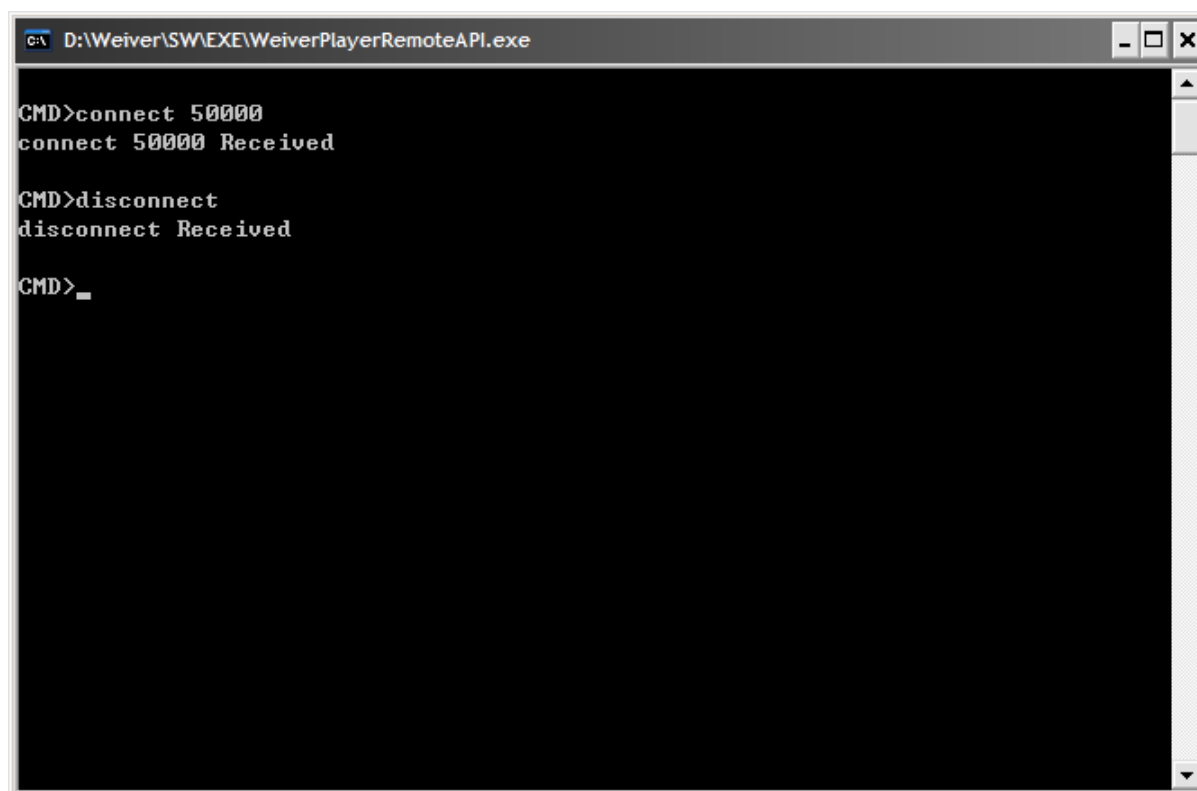
- Description

UDP port number must be notified when use 'connect' command to receive a proper response. Designate UDP port number as same as the u2\_RecvPortFromWeiverPlayer variable value for program examples. UDP port number is adjustable. Receiving UDP port number of the device is fixed at 50504.

Disconnect command will stop device operation.

- Example

1. connect 50000,
2. disconnect



```
CMD>connect 50000
connect 50000 Received

CMD>disconnect
disconnect Received

CMD>_
```

### 'rescandisk' command

How to use)

'rescandisk' command will refresh device disk drive.

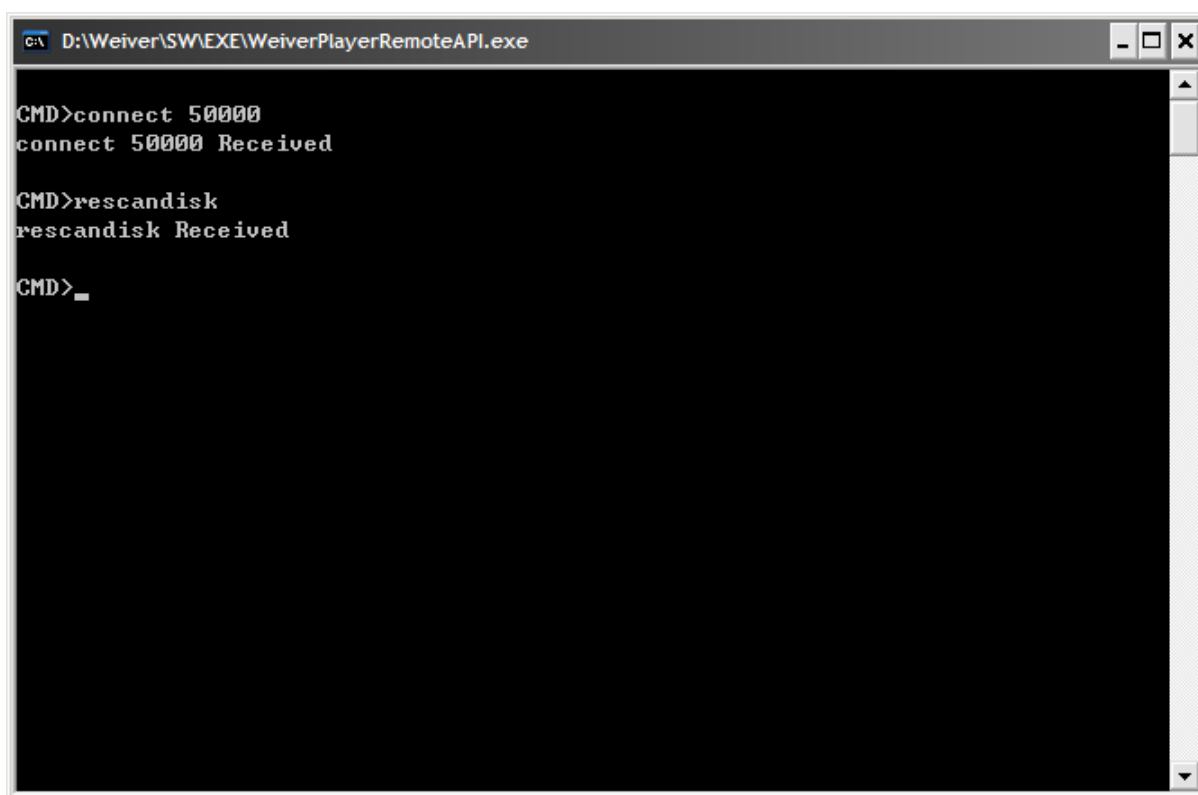
If e-SATA disk drive is not found, 'rescandisk' command may able device to find the disk drive.

Example)

Use when disk drive is not refreshing automatically.

Examples)

1. rescandisk



```
C:\D:\Weiver\SW\EXE\WeiverPlayerRemoteAPI.exe
CMD>connect 50000
connect 50000 Received

CMD>rescandisk
rescandisk Received

CMD>_
```

**'set current\_directory', 'get current\_directory' command**  
**'get file\_count', 'get filename', 'get folder\_count', 'get foldername' command**  
**'openfile', 'get openfile' command**

How to use)

set current\_directory : directory is the disk drive of the device.

get file\_count : Bring number of files with .wpj file extension.

get filename index: The maximum number of Index is [number of files – 1].

get folder\_count : set current\_directory: Bring number of folders from directory.

get foldername index : The maximum number of Index is [number of folders – 1].

openfile filename : file name with .wpj extension.

Description)

Designate a xxx.wpj for play files.

Stop first before using 'openfile' command.

Example)

1. set current\_directory f:\
2. get current\_directory
3. get file\_count
4. get filename 0
5. get filename 1
6. get folder\_count
7. get foldername 0
8. get foldername 1
9. openfile testrecordtest.wpj
10. get openfile

```

C:\ D:\Weiver\SW\EXE\WeiverPlayerRemoteAPI.exe

CMD>connect 50000
connect 50000 Received

CMD>rescandisk
rescandisk Received

CMD>set current_directory f:\
set current_directory f:\ Received

CMD>get current_directory
get current_directory f:\

CMD>get file_count
get file_count 2

CMD>get filename 0
get filename 0 testrecordtest.wpj

CMD>get filename 1
get filename 1 Trigger.wpj

CMD>get folder_count
get folder_count 2

CMD>get foldername 0
get foldername 0 WeiverData

CMD>get foldername 1
get foldername 1 x86

CMD>openfile testrecordtest.wpj
openfile testrecordtest.wpj Received

CMD>get openfile
get openfile testrecordtest.wpj

CMD>_

```

**'play start', 'play stop', 'play pause', 'play resume', 'get play\_status' Command**

How to use)

'play start', 'play stop', 'play pause', 'play resume', 'get play\_status'

Description)

Use 'play start', 'play stop', 'play pause' and 'play resume' command after selecting the file with 'openfile' command.

'play start' starts the file Play.

'play stop' stops the file Play.

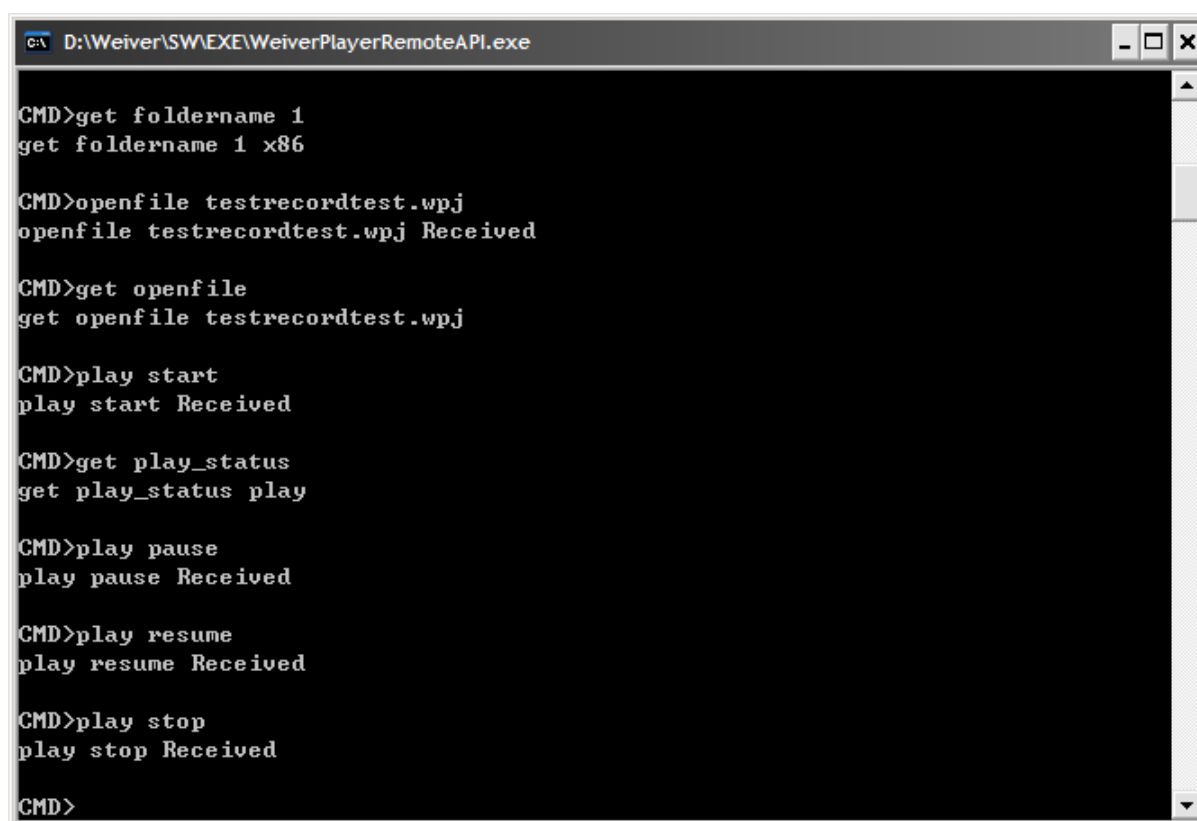
'play pause' pauses the file Play.

'play resume' resumes the file Play.

'get play\_status' retrieves the current status.

Example)

1. play start
2. get play\_status
2. play pause
3. play resume
4. play stop



```
C:\ D:\Weiver\SW\EXE\WeiverPlayerRemoteAPI.exe

CMD>get foldername 1
get foldername 1 x86

CMD>openfile testrecordtest.wpj
openfile testrecordtest.wpj Received

CMD>get openfile
get openfile testrecordtest.wpj

CMD>play start
play start Received

CMD>get play_status
get play_status play

CMD>play pause
play pause Received

CMD>play resume
play resume Received

CMD>play stop
play stop Received

CMD>
```

## set freq', 'get freq' Command

how to use)

'set freq' frequency

Weiver 1.0 : frequency range is from 50000000(50MHz) to 1000000000(1GHz).

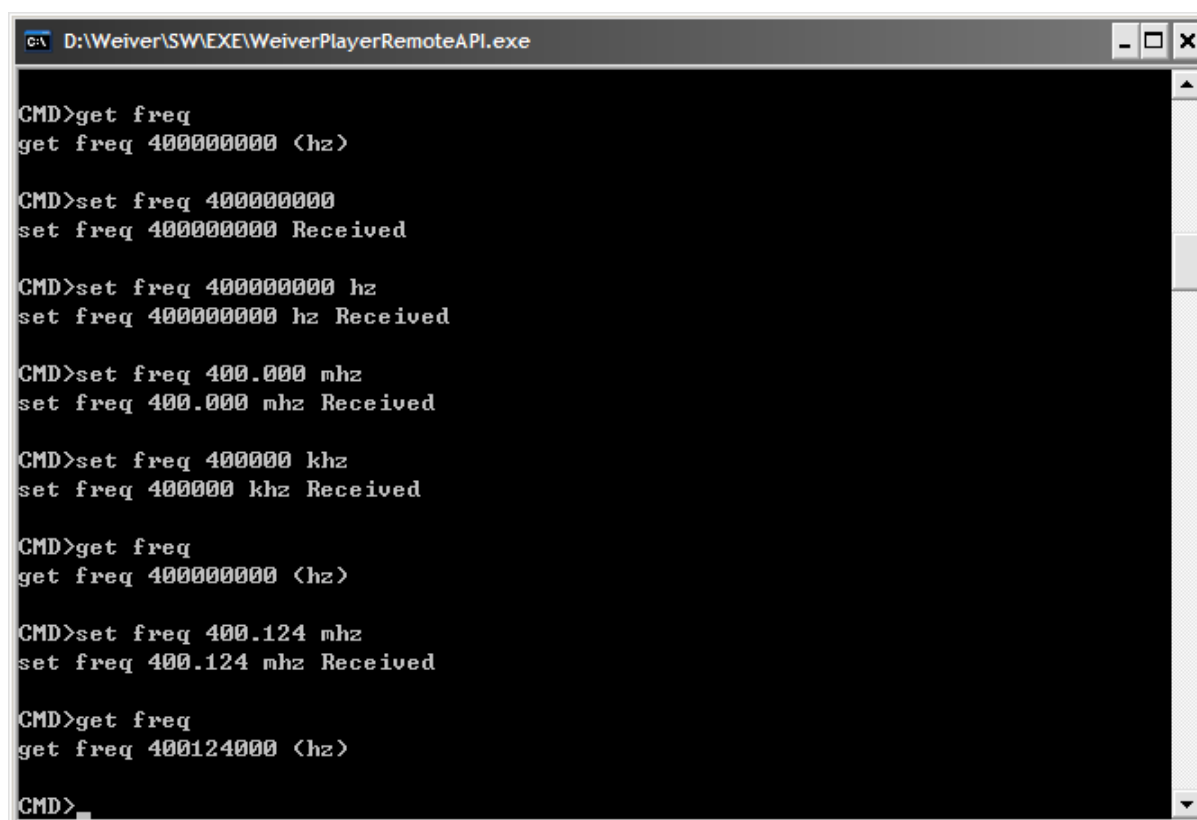
Weiver 2.0 : Please refer to 'get freq\_min', get 'freq\_max' for frequency commands.

Description)

Select the file with 'openfile' commend and adjust frequency with 'set freq' command. The units are in Hz, KHz, and MHz.

Example)

1. set freq 400000000 (400MHz configuration)
2. get freq
3. set freq 400 MHz (400MHz configuration)
4. set freq 400000 KHz (400MHz configuration)
5. set freq 400000000 Hz (400MHz configuration)



```
CMD>get freq
get freq 400000000 <hz>

CMD>set freq 400000000
set freq 400000000 Received

CMD>set freq 400000000 hz
set freq 400000000 hz Received

CMD>set freq 400.000 mhz
set freq 400.000 mhz Received

CMD>set freq 400000 khz
set freq 400000 khz Received

CMD>get freq
get freq 400000000 <hz>

CMD>set freq 400.124 mhz
set freq 400.124 mhz Received

CMD>get freq
get freq 400124000 <hz>

CMD>
```

'get gain\_min', 'get gain\_max', 'get rf\_out\_level 0', 'get gain', 'set gain' command.

How to use)

To apply more gain during Play after using 'openfile' command.

Generally, the range of Gain is from -30dB to +30dB. However, when the file has been selected, the range of the Gain can be checked with 'get gain\_min' and 'get gain\_max' command.

'get rf\_out\_level' time: the range of time is the total play time of the file.

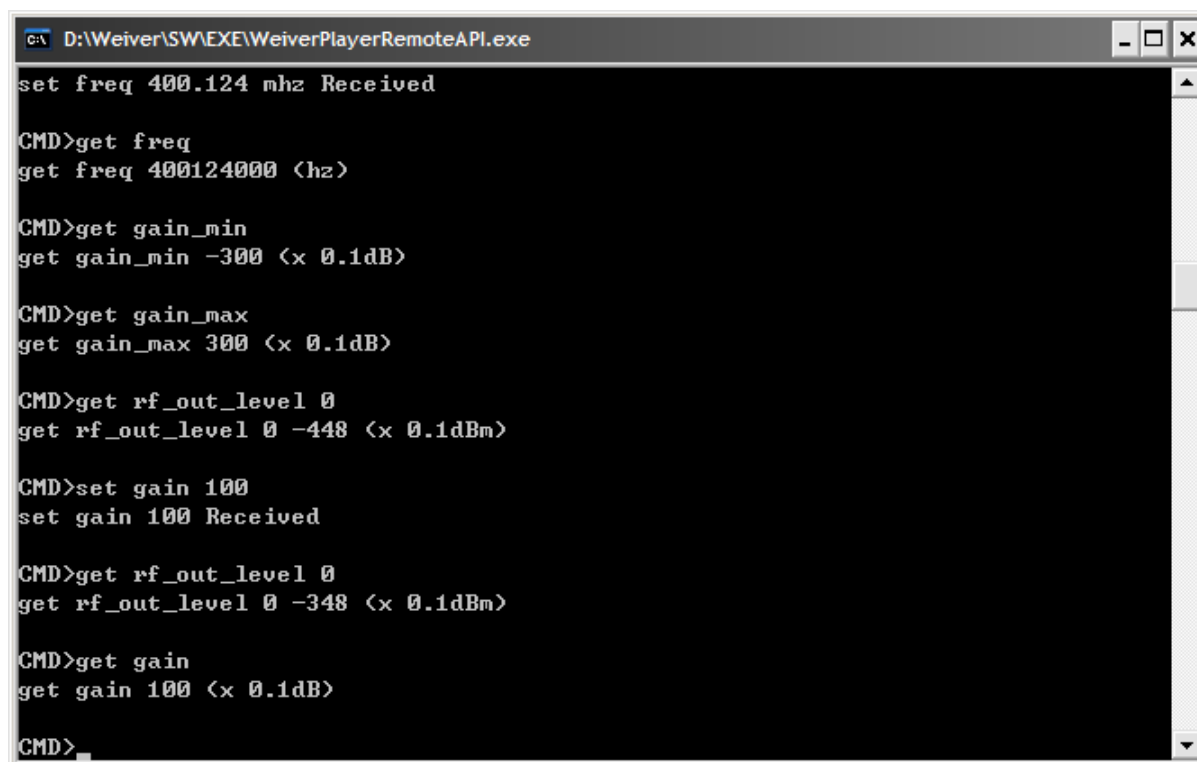
Description)

Units in 0.1 dB.

For example, type in 'set gain 100' to apply +10dB Gain.

Example)

1. get gain\_min
2. get gain\_max
3. get rf\_out\_level 0
4. set gain 100
5. get rf\_out\_level 0
6. get gain



```
C:\ D:\Weiver\SW\EXE\WeiverPlayerRemoteAPI.exe
set freq 400.124 mhz Received

CMD>get freq
get freq 400124000 <hz>

CMD>get gain_min
get gain_min -300 <x 0.1dB>

CMD>get gain_max
get gain_max 300 <x 0.1dB>

CMD>get rf_out_level 0
get rf_out_level 0 -448 <x 0.1dBm>

CMD>set gain 100
set gain 100 Received

CMD>get rf_out_level 0
get rf_out_level 0 -348 <x 0.1dBm>

CMD>get gain
get gain 100 <x 0.1dB>

CMD>
```

### **'get play\_time\_total', 'get play\_time\_current', 'set play\_time\_current', 'get play\_section' and 'set play\_section' command**

#### How to use)

'play time' related commands: allows designate the play starting points and obtain 'time' related information of the file after such file has been selected by using 'openfile' command.

'get play\_time\_total' command: displays the total play time of the selected file in seconds.

'set play\_time\_current' command: allows to configure starting and end point of the file for a continuous loop play. Time at starting point must be less than the ending point, and the time at the ending point must be less than the total play time of the file.

#### Description)

Units in seconds.

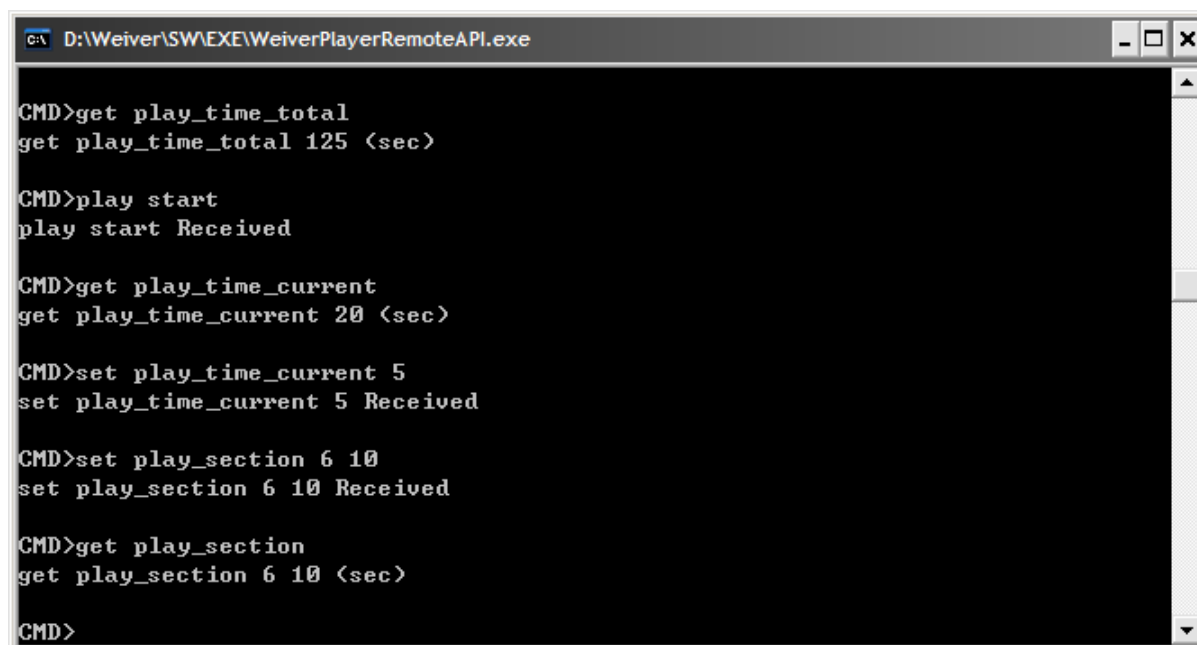
Possible playback time of the play file is 630 seconds.

'pp 5' moves the file play point to the 5 sec. location

'playrepeat' 6 10: Continuous loop play between 6 sec and 10 sec file location.

#### Example)

1. get play\_time\_total
2. get play\_time\_current
3. set play\_time\_current 5
4. set play\_section 6 10
5. get play\_section



```
C:\D:\Weiver\SW\EXE\WeiverPlayerRemoteAPI.exe

CMD>get play_time_total
get play_time_total 125 <sec>

CMD>play start
play start Received

CMD>get play_time_current
get play_time_current 20 <sec>

CMD>set play_time_current 5
set play_time_current 5 Received

CMD>set play_section 6 10
set play_section 6 10 Received

CMD>get play_section
get play_section 6 10 <sec>

CMD>
```



### 'set spec\_inv off/on' and 'get spec\_inv' command

How to use)

'set spec\_inv off': Transmitting the original RF spectrum of the play file.

'set spec\_inv on': Transmitting the inverted RF spectrum of the play file

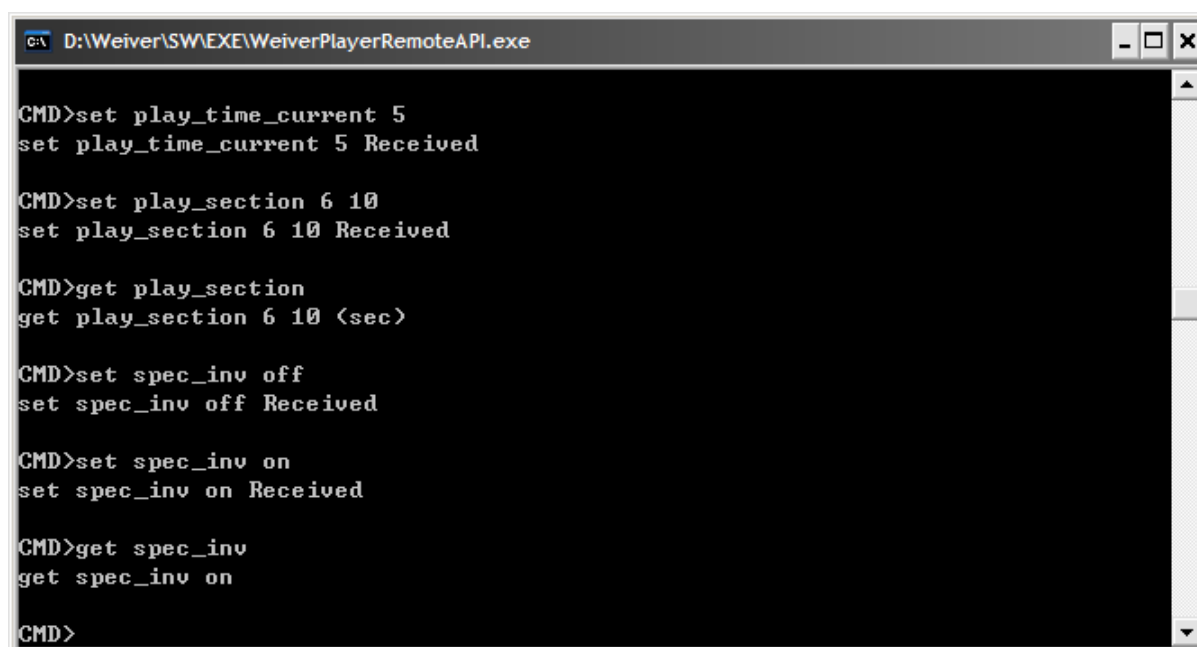
Description)

Use 'set spec\_inv' command to transmit inverted spectrum

Example)

1. set spec\_inv off

2. set spec\_inv on



```
CMD>set play_time_current 5
set play_time_current 5 Received

CMD>set play_section 6 10
set play_section 6 10 Received

CMD>get play_section
get play_section 6 10 <sec>

CMD>set spec_inv off
set spec_inv off Received

CMD>set spec_inv on
set spec_inv on Received

CMD>get spec_inv
get spec_inv on

CMD>
```

### 'set sample\_rate' and 'get sample\_rate' Command

How to use)

'set sample\_rate' sample frequency

Weiver 1.0 : Sample frequency range 5000000(5MHz) ~ 30000000(30MHz)

Weiver 2.0: Sample frequency range 1250000(1.25MHz) ~ 70000000(70MHz)

Sample frequency means the I/Q Rate. I/Q rate for BW 8MHz is 10MHz when BW 24MHz is 30MHz.

Description)

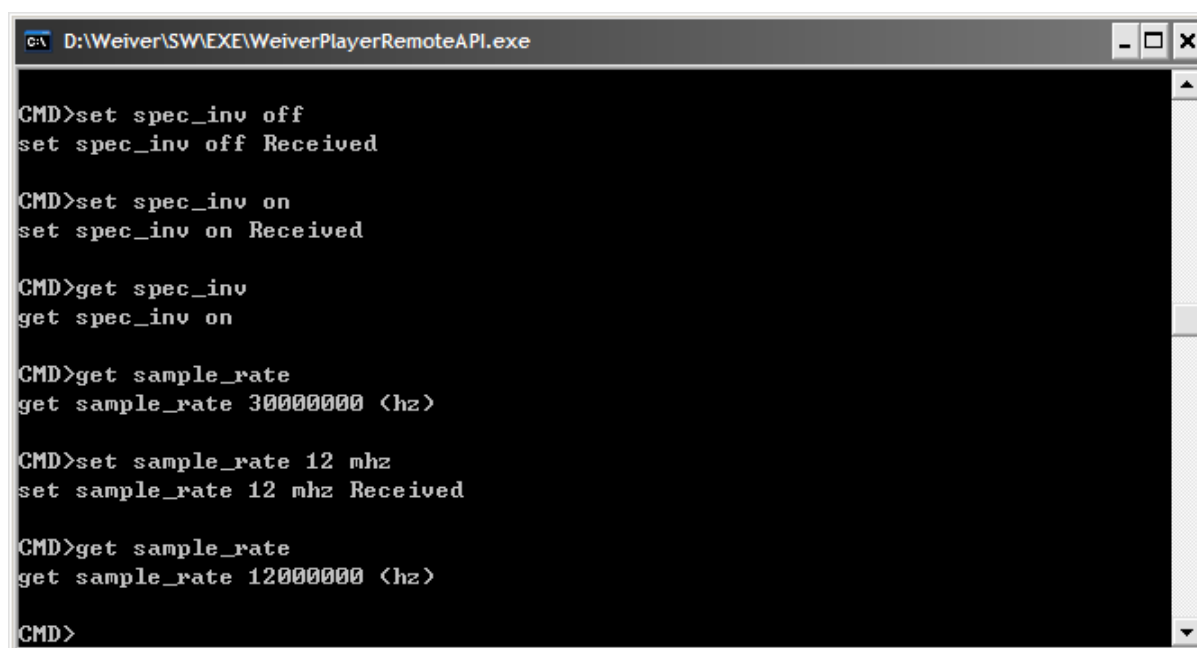
Sample frequency will be selected automatically when file has been selected by 'openfile' command

Use 'set sample\_rate' to manually adjust the rate.

Units in Hz.

Example)

1. set sample\_rate 12000000, set sample\_rate 12 mhz, set sample\_rate 12000 khz
2. get sample\_rate



```
C:\D:\Weiver\SW\EXE\WeiverPlayerRemoteAPI.exe

CMD>set spec_inv off
set spec_inv off Received

CMD>set spec_inv on
set spec_inv on Received

CMD>get spec_inv
get spec_inv on

CMD>get sample_rate
get sample_rate 30000000 <hz>

CMD>set sample_rate 12 mhz
set sample_rate 12 mhz Received

CMD>get sample_rate
get sample_rate 12000000 <hz>

CMD>
```

**'set trigger\_out\_level' and 'get trigger\_out\_level' Command.**

How to use)

WeiverPlayer 1.0, Weiver 2.0 and WeiverPlayer 2.0 have Trigger out port.

'set trigger\_out\_level low': Transmitting LOW level(0V) via Trigger Out port.

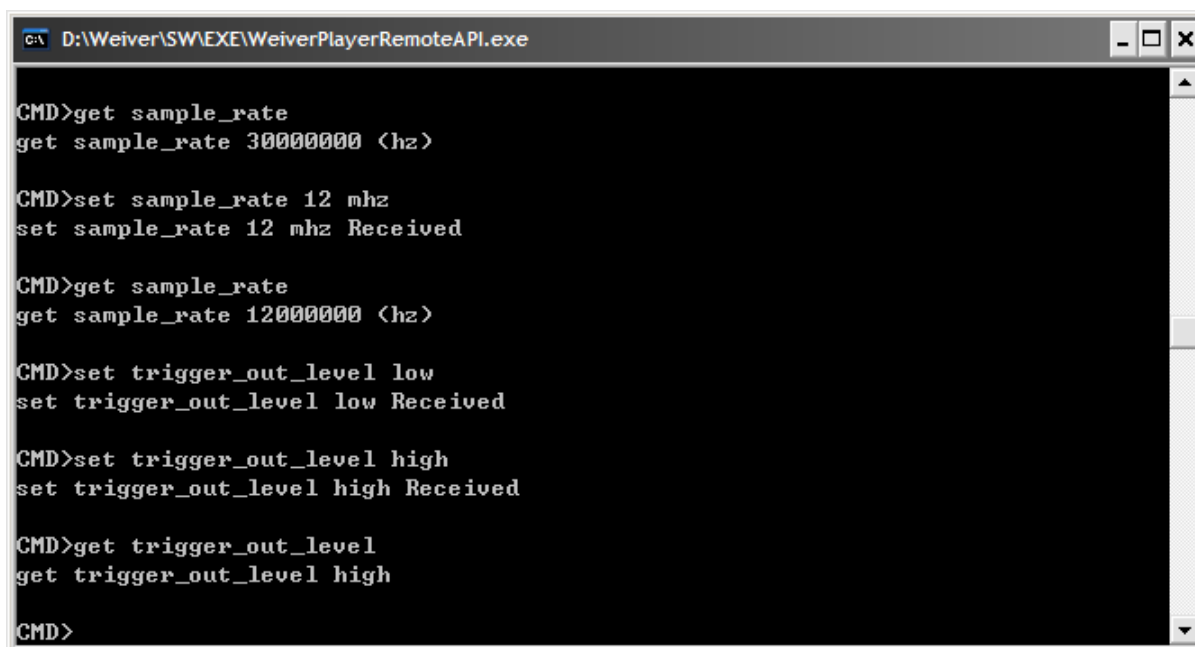
'set trigger\_out\_level high': Transmitting HIGH level(3.3V) via Trigger Out port.

Description)

Configure output level of 'Trigger Out' port.

Example)

1. set trigger\_out\_level low
2. set trigger\_out\_level high



```
C:\D:\Weiver\SW\EXE\WeiverPlayerRemoteAPI.exe

CMD>get sample_rate
get sample_rate 30000000 <hz>

CMD>set sample_rate 12 mhz
set sample_rate 12 mhz Received

CMD>get sample_rate
get sample_rate 12000000 <hz>

CMD>set trigger_out_level low
set trigger_out_level low Received

CMD>set trigger_out_level high
set trigger_out_level high Received

CMD>get trigger_out_level
get trigger_out_level high

CMD>
```

### **'set extclk' and 'get extclk' Command**

How to use)

It can synchronized external 10MHz with device operating clock

'set extclk off': Use internal 10MHz clock.

'set extclk on': Sync with external 10MHz clock input

Description)

Generally use 'set extclk off'.

Example)

1. set extclk off
2. set extclk on
3. get extclk

### 'set trigger\_in' and 'get trigger\_in' command

How to use)

'set trigger\_in off': RF transmission regardless of its input level of 'trigger In' port.

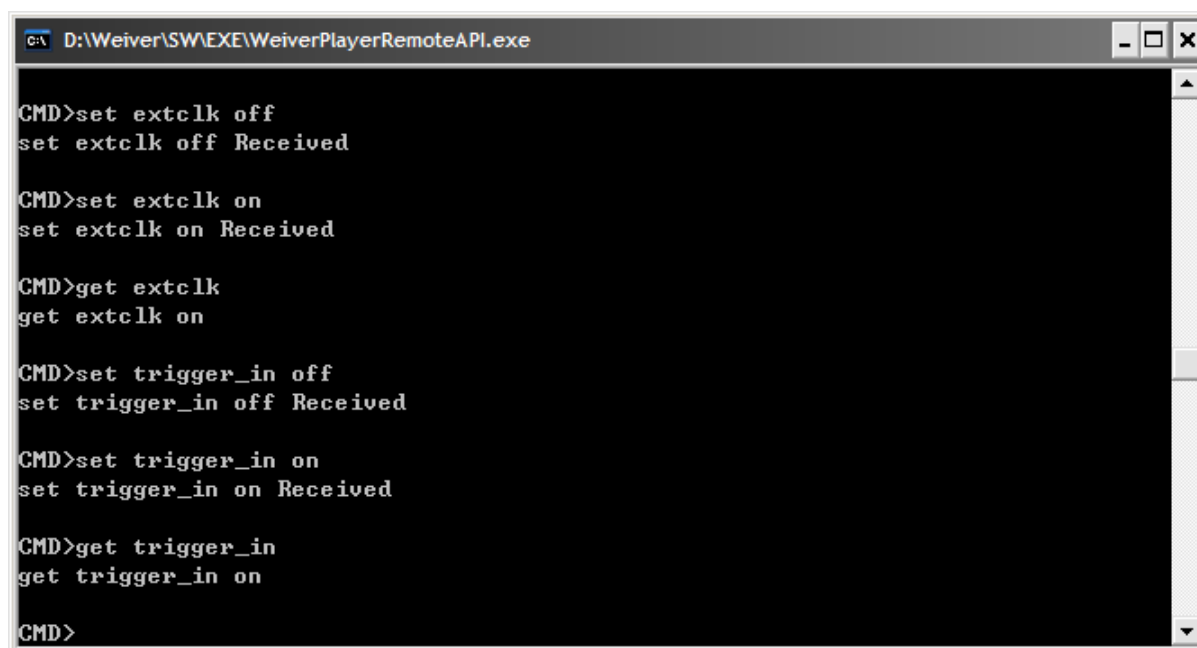
'set trigger\_in on': RF transmitting, only if the input level is HIGH(3.3V)

Description)

When 'set trigger\_in' command was used for play start, the file play is based on the input level of 'trigger In' port. It enables the synchronized operation of multiple Weivers.

Example)

1. set trigger\_in off
2. set trigger\_in on
3. get trigger\_in



```
C:\ D:\Weiver\SW\EXE\WeiverPlayerRemoteAPI.exe

CMD>set extclk off
set extclk off Received

CMD>set extclk on
set extclk on Received

CMD>get extclk
get extclk on

CMD>set trigger_in off
set trigger_in off Received

CMD>set trigger_in on
set trigger_in on Received

CMD>get trigger_in
get trigger_in on

CMD>
```

**[WeiverPlayerRemoteAPI Source]**

```

CWinApp theApp;
using namespace std;
const unsigned short u2_WeiverPlayerPort = WEIVER_PLAYER_API_RX_PORT;
const unsigned short u2_RecvPortFromWeiverPlayer = 50000;
const char s1a_WeiverPlayerIP[] = "192.168.100.1";
//const char s1a_WeiverPlayerIP[] = "127.0.0.1";
//const char s1a_WeiverPlayerIP[] = "192.168.10.15";

int _tmain(int argc, TCHAR* argv[], TCHAR* envp[])
{
    int nRetCode = 0;

    if (!AfxWinInit(::GetModuleHandle(NULL), NULL, ::GetCommandLine(), 0))
    {
        _tprintf(_T("AfxWinInit failed.\n"));
        nRetCode = 1;
    }
    else
    {
        wchar_t wCmdLine[1000];
        wchar_t wSendCmd[1000];

        WSADATA wsaData;
        WSASStartup(MAKEWORD(2,2), &wsaData);

        while(nRetCode == 0)
        {
            memset(wCmdLine, 0, 1000);
            memset(wSendCmd, 0, 1000);

            wprintf(_T("\nCMD>"));

            _getws_s(wCmdLine, 1000);

            if(wcsncmp(wCmdLine, _T("exit"), wcslen(_T("exit"))))
            {
                nRetCode = 1;
            }
        }
    }
}

```

```

        else
        {
            SendToStringCMD((char*)wCmdLine, 2*wcslen(wCmdLine));
        }
        wprintf(_T("\n"));
    }
    WSACleanup();
}

return nRetCode;
}

void SendToStringCMD(char *s1p_Data, unsigned int u4_Size)
{
    SOCKET h_Socket;
    SOCKADDR_IN Addr;

    int SentBytes;

    WvPlayerRemotePacket_t t_Packet;
    WvPlayerRemotePacket_tp tp_Packet;

    char *pSendData = (char *)&t_Packet;

    char message[2000];
    memset(message, 0, 2000);

    int clntAddrSize = sizeof(Addr);

    h_Socket = socket(PF_INET, SOCK_DGRAM, IPPROTO_UDP);

    memset(&Addr, 0, sizeof(Addr));
    Addr.sin_family = AF_INET;
    Addr.sin_port = htons(u2_RecvPortFromWeiverPlayer);
    Addr.sin_addr.s_addr = htonl(INADDR_ANY);

    struct timeval timeout;
    timeout.tv_sec = 2; // 2 seconds
    timeout.tv_usec = 0;
    int optlen = sizeof(timeout);

```

```

setsockopt(h_Socket, SOL_SOCKET, SO_RCVTIMEO, (const char *)&timeout, optlen);
if(bind(h_Socket, (SOCKADDR*)&Addr, sizeof(Addr)) == SOCKET_ERROR)
{
    wprintf(_T("bind() Error"));
    closesocket(h_Socket);
    return;
}

t_Packet.u4_ID = WEIVER_PLAYER_ID;
t_Packet.u4_Reserved = WV_PLAYER_REMOTE_CMD_SET_STRING;
t_Packet.u4_DataSize = u4_Size;

memset(t_Packet.u1a_Data, 0, 1000);
memcpy(t_Packet.u1a_Data, s1p_Data, u4_Size);

memset(&Addr, 0, sizeof(Addr));
Addr.sin_family = AF_INET;
Addr.sin_port = htons(u2_WeiverPlayerPort);
Addr.sin_addr.s_addr = inet_addr(s1a_WeiverPlayerIP);

SentBytes = sendto(h_Socket
                    ,pSendData
                    ,4/*sizeof(t_Packet.u4_ID)*/
                    + 4/*sizeof(t_Packet.u4_Reserved)*/
                    + 4/*sizeof(t_Packet.u4_DataSize)*/ + u4_Size
                    ,0, (SOCKADDR*)&Addr, sizeof(SOCKADDR_IN));

if(SentBytes == SOCKET_ERROR)
{
    wprintf(_T("\nSend Fail"));
}

```



```
else
{
    memset(&Addr, 0, sizeof(Addr));

    int length = recvfrom(h_Socket
        , message, 2000, 0, (SOCKADDR*)&Addr, &clntAddrSize);

    if(length == -1)
    {
        wprintf(_T("Time Out"));
    }
    else
    {
        tp_Packet = (WvPlayerRemotePacket_tp)(message);

        wprintf(_T("%s"), tp_Packet->u1a_Data);
    }
}

closesocket(h_Socket);
}
```