

## 1. Package Contents

1 x DP-502 unit  
1 x power supply  
1 x Ethernet cable  
1 x audio patch cord, monoral 3.5mm to 3.5mm  
1 x audio patch cord, monoral 3.5mm to RCA  
1 x software CD  
1 x user's manual

Please contact your dealer immediately should any item be missing.

# *DP-502*

## *Networked Onhold Player*

## **User's Manual**

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## 2. Introduction

DP-502 is a music on hold player capable of playing WAV and MP3 files via a MOH ready phone system to callers on hold. In addition to superior sound quality the device also offers remote content updating via the Internet, making it ideal for installations where central management is appreciated and/or mandated.

A DP-502 based music on hold system allows multiple devices to be connected to a central server via the Internet and have their contents updated automatically on a regular basis. Every day at the scheduled time a device would try to connect with the server and download updates if there are any. This update scheme is called the pull type (vs. the push type scheme where the server pushes updates to the device on its own schedule).

If errors should occur during device connection the server would indicate so on the screen to alert the system administrator. In addition to the scheduled connection time, the device would also try to connect upon power up. This allows updates to be downloaded on demand and become effective immediately, although the device needs to be manually power cycled.

The server would be a non-dedicated Windows PC running the DP-502 Server Program which could be running all the time or only when updates are available.

The device stores up to 13 sound files locally (1 generic and 12 months) and loop-plays the generic file and the month file alternately throughout the day. It automatically switches to a new month file when the date changes from the current month to the next.

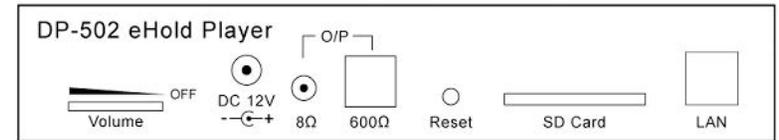
A Windows based Console Program is used to organize devices into different groups for easier system setup. When a device is assigned to a group it automatically gets the group default settings. When a group default setting is changed, all devices in the group automatically gets the change. However, a device may have some or all settings changed from the default. For example, devices in a group may be configured with different connection times so that they all would not try to connect at the same time.

The Console Program is also used to program initial system data such as setup parameters and sound files onto an SD card for use in the device. Afterwards, updates can be done either by downloading over the network or by swapping SD cards if network is unavailable.

### Sound File Support

- \* MP3: ISO11172-3 (both CBR and VBR), monaural and stereo
- \* WAV: monaural uncompressed PCM, 8- or 16-bit, up to 44.1 KHz

## 3. Hardware Installation



### Volume Dial

The volume dial controls the output level of both the O/P outputs and the internal speaker. It also serves as a power on/off switch.

### DC 12V Jack

Connect the power supply to this jack. Always use the factory provided power supply to avoid potential damages to the unit.

### O/P Jack - 8 Ohm Unbalanced

Use this output if your phone system has an unbalanced jack, often called MOH or BGM, for onhold music. To connect, use one of the audio patch cords provided (whichever fits the phone system).

### O/P Jack - 600 Ohm Balanced

Use this output if your phone system has a balanced jack, usually a RJ-11 type, for onhold music. To connect, use a regular telephone cord (not included).

### Hardware Reset Button

This button is used to restore device configuration to factory default. The hardware reset is usually performed when the user name/password for device configuration is lost. To reset the unit: use a small sharp object to press/hold down the reset button till the audio is stopped. Then power cycle the device to complete the reset. Note that, since the device configuration would have been restored to factory default, the device needs to be re-configured as if it is a brand new unit.

### SD Card

Both SD (up to 2GB) and SDHC (4~32 GB) are supported.

### LAN

A 10/100BaseT RJ-45 Ethernet port.

### Monitor Button (on the case top)

Turns the internal monitor speaker on and off.

### Indicator Lights (on the case top)

After power-up it will take a few seconds for the lights to settle down.  
System: solid on when ready, flashing when error.  
Play: solid on when playing audio, flashing when error.  
LAN: solid on when connected to a LAN, flashing with LAN activities.

## 4. Software Installation

### **DP502 Sever Program & DP502 Console Program**

Run “DP-502 Setup.exe” on the software CD and install the software on a Windows PC that is to be the server. The following programs will be installed: the DP502 Server Program and the DP502 Console Program.

Always uninstall the old version before installing a new version of the software. If the new version is installed into the same folder as the old version then the Console Program data such as groups and sound files would be preserved.

If the setup program is run without uninstalling the software first, the program will give options to either repair or remove the current installation.

### **ETM**

This program is used to find the IP address of a device sitting on the same LAN as the server, so that the device may be configured with a web browser. Device configuration is usually done just one time by the installer only, therefore ETM needs not be installed by the end user in most cases.

ETM may be installed by running the “ETM Setup.exe” (the actual program name contains a version number such as “ETM 3.0 Setup.exe”) on the software CD. When it is installed a program called WinPcap (actual program name contains a version number such as “WinPcap 4.1.2”) is also installed. Do not uninstall WinPcap otherwise ETM will not work.

## 5. Server Consideration

Any Windows PC may be used as the server. It does not need to be dedicated, and it needs to be up and running only when new updates are available for the devices to download.

The server must have a static IP address in order for the devices to find it. If all the devices are installed within the same LAN as the server then the server’s IP address may be a private one. Otherwise the server’s IP address needs to be a public one obtained from the Internet service provider.

The server IP address, along with the original set of sound files, are written via the console program onto an SD card which is then inserted into the device. This is how the device knows where to find the server. If the server IP address should change later, the change can be downloaded by the device as the last update from the server’s old IP address. Or an SD card programmed with the new data can be sent to the location to replace the old card.

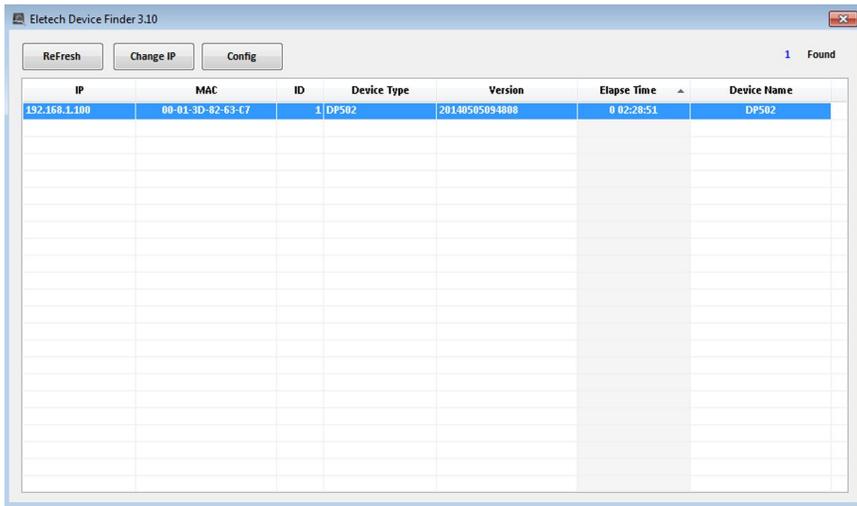
## 6. Device Configuration

The device needs to be correctly configured in order to operate properly. The configuration must be done on a PC (not necessarily the server) connected to the same LAN as the target device.

By using a web browser there are two ways to configure the device:

If you know the device's IP address (by looking up the DHCP device table), you may enter it into the browser (e.g. <http://192.168.1.100>) and get to the login window. The default user name is dp502 and the default password is 1234.

Otherwise you may run the ETM program to find the device's IP address. You'll get a window similar to the following. If no device is found, click ReFresh to try again. After the device is found, click Config to get to the login window.



It will be confusing if multiple new devices are present on the LAN and found by ETM at the same time, because they would all have the same device name and be indistinguishable. Therefore it would be wise to do it one device at a time.

If the user name and/or the password should be lost, then a hardware reset must be performed (see Hardware Installation) to restore the factory default.

After the correct user name and password are entered, a screen similar to the following would appear:

**Administration**

User Name: dp502  
Password: 1234

**LAN**

DHCP Client: Enable

**Sync Time with PC**

Computer Time 2014/11/12 10:23:36 Sync to Device

**NTP (Network Time Protocol)**

NTP Server: Enable | time-nw.nist.gov  
Time Zone: (GMT -08:00) Pacific Time (US & Canada), Tijuana

**Update software**

Server:   
Port: 5000 | Update

OK

### Administration

The login user name & password for device configuration. The default is dp502 for user name, 1234 for password.

### LAN/DHCP Client

The default is Enable - the device would get automatic network configuration. Disable DHCP Client if manual network configuration is necessary.

### Sync Time with PC

The device's internal clock must be set to the local time of the installation site. It's better to enable NTP and have the clock automatically synced over the Internet on a regular basis (see below). If that is not feasible then the device needs to be manually synced by a PC (not necessarily the server) in the same time zone at least once a month.

### NTP (Network Time Protocol)

The default is Enable - the device will sync up with the chosen NTP server over the Internet automatically once every four hours. Any NTP Server may be chosen since they all provide the same service, but the Time Zone must be set manually to that of the installation site.

### Update Firmware

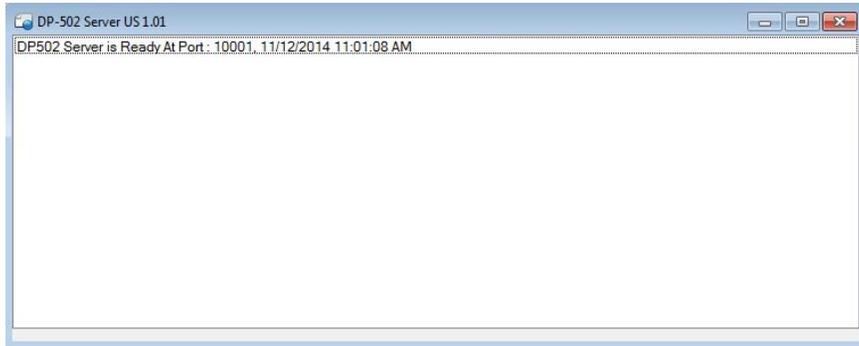
When firmware update is necessary, your dealer will provide the server IP address and port number to fill in here.

### OK

Click this button when done. The device will reboot and the new configuration will become effective after the reboot.

## 7. The Server Program

The Server Program needs to be running in order for the devices to connect with the server. For convenience's sake it is made to start running automatically when Windows starts, and display its event log which looks similar to the following:



You may minimize or expand the event log by clicking on the corresponding button on the upper right corner, or click the red X button to stop the Server Program.



This icon on the task bar indicates that the server program is running. You can view the event log by left-clicking the icon. To stop the server program manually, right-click the icon and select “Close window”.

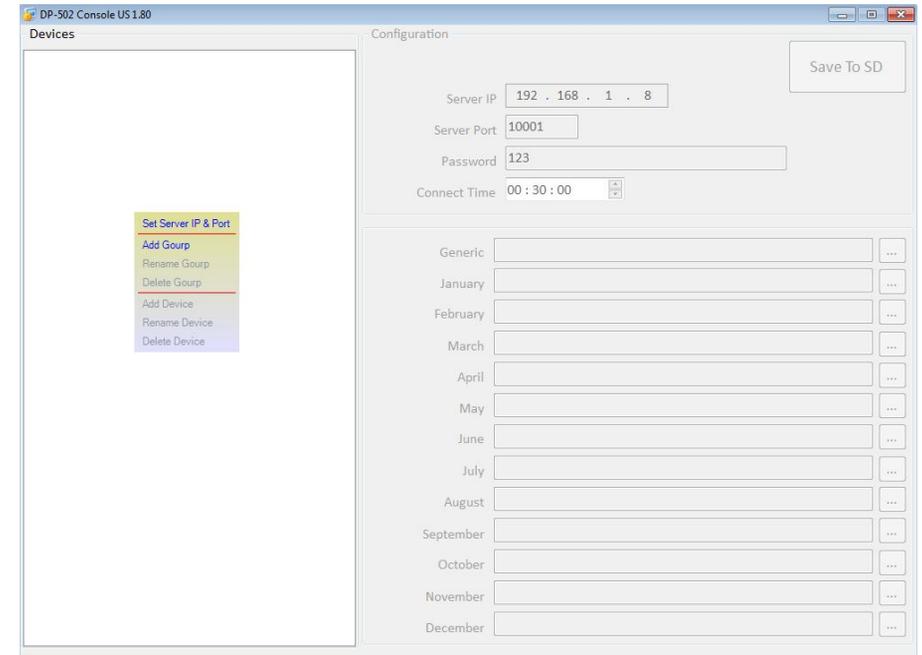


This icon on the desktop is a shortcut to the Server Program. Double click this icon to start the Server Program if it has been manually stopped previously. The Server Program needs to be running in order for the devices to connect with the server.

## 8. The Console Program

The Console Program is used to manage devices and program SD cards with initial system configuration data such as server IP and sound files. Unlike the Server Program, the Console Program does not need to be running in order for the devices to connect to the server.

When the Console Program is run for the first time, its window is mostly blank. Right click over the left pane to pop out the command menu.



### Set Server IP & Port

This setup applies to all groups, which means all groups are to be served by the same server.

### Add/Rename/Delete Group

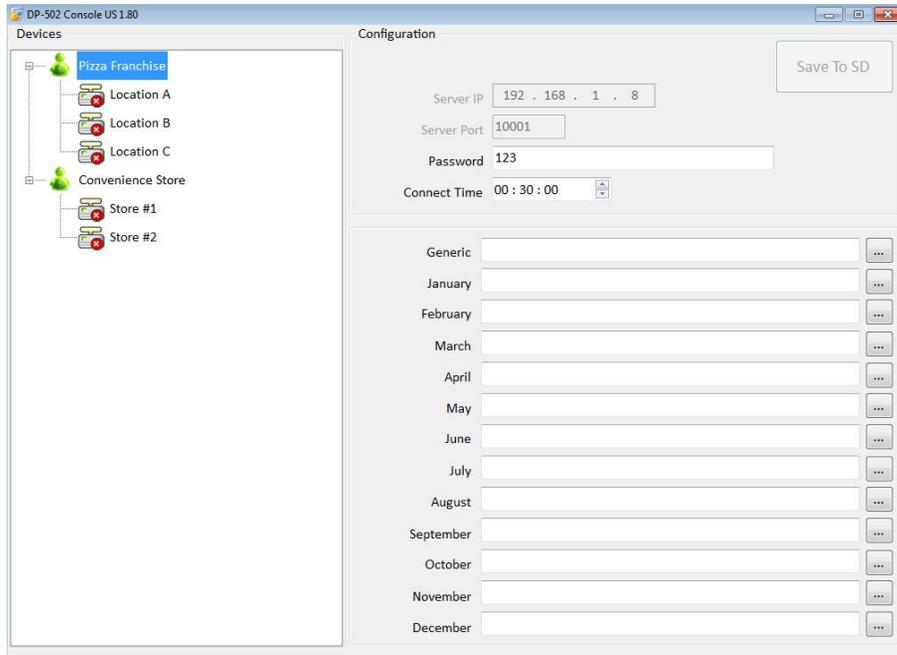
Highlight the target group before Rename/Delete Group.

### Add/Rename/Delete Device

A device must be added to an existing group. Highlight the target group before Add Device. Highlight the target device before Rename/Delete Device.

## Group Configuration

Highlight the target group for configuration.



### Server IP & Server Port

Unchangeable in this part of the program.

### Password

The group default password.

### Connect Time

The group default connect time.

### Generic ~ December

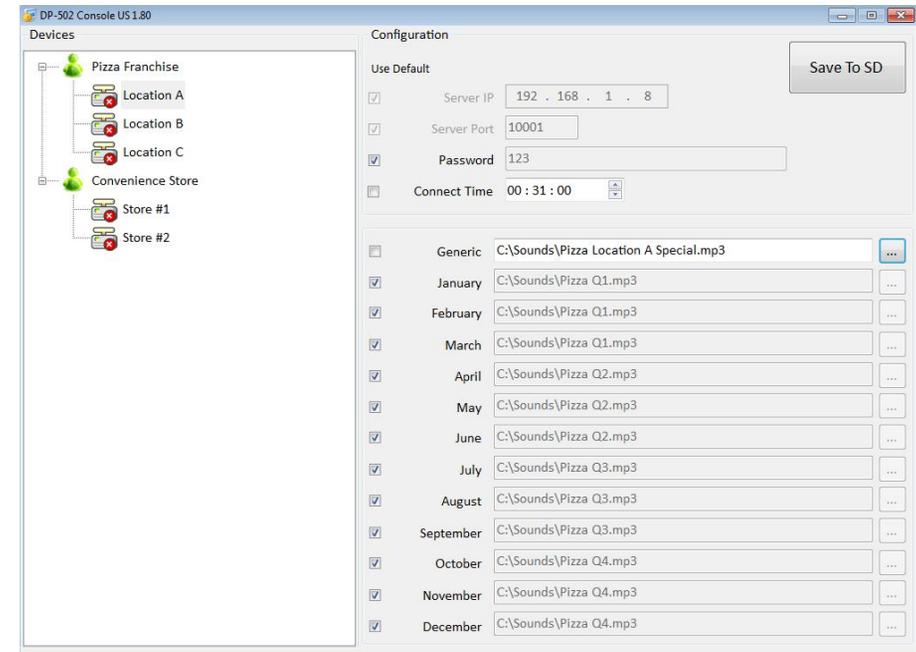
The group default sound files. Click on the three-dots button to open a navigation window for locating the file.

### Save To SD

Grayed out, not applicable to a group.

## Device Configuration

Highlight the target device for configuration. Uncheck the Use Default box before making changes.



In the example above, the Connect Time and the Generic have been changed from the group default.

### Save To SD

After all necessary changes have been made for this particular device, insert an SD card into the card reader and click this button. After the SD card has been written, insert it into the device which is now ready to operate.

### The Red X

The red X on the device icon indicates that either the device has never connected to the server or the last connection was unsuccessful.