Congratulations on your new Aurora Design USB-1 USB/MP3 adapter. Combined with an FMR-1 converted radio, you can enjoy 21st century technology in your classic vehicle!

Setup: Before installing your radio back into your vehicle, you may wish to plug a USB extension cable into the USB plug on your radio. A standard USB A female to A male extension cable may be purchased at most electronics retailers. The length should be chosen for the desired mounting location of the USB connector for easy access. This can be under the dash, in a console, in the glovebox, etc.

If your USB-1 came with the optional pushbutton assembly, a suitable location should be found for easy access. The pushbutton is not required when using an FMR-1 converted radio as the existing radio controls can be used to fully control the USB-1.

The pushbutton requires a 1/2" (12.7mm) hole and should be mounted somewhere convenient such as the bottom edge of the dashboard. The pushbutton is illuminated with a red status LED that should be made visible for easiest operation. The attached cable is 3.3' (1M) long and can be routed as required. Excess cable can be coiled and tied off.

Operation: When a USB drive containing mp3 files is inserted, the USB-1 will signal to the FMR-1 to automatically switch to the USB mode. The FMR-1 status LED will change color to indicate the USB is active. (see FMR-1 manual for more information on status LED) When the USB drive is removed, the FMR-1 will go back to the prior mode. The user never needs to make any selections or adjustments to the radio!

If the USB drive was already inserted when the radio is powered up, it will wait for a play command before starting to play back files.

If the BT-1 Bluetooth module is also installed, it will take precedence over the USB module. For example, when listening to USB audio, if a phone call comes in, or you start streaming Bluetooth audio, the USB will be paused and the FMR-1 will switch to the Bluetooth input. When the call is finished or the streaming audio ends, the USB will continue from where it left off. Please refer to the BT-1 User Manual for more information on operating the BT-1.

Playing files: To start playing music, insert a USB drive containing mp3 audio files into the USB connector or issue a play command as described below. The radio will switch to the USB module and the audio will start playing.

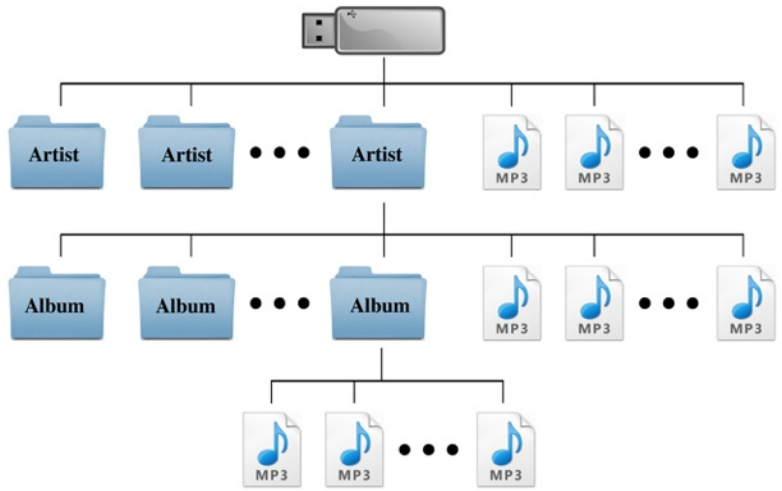
To skip to the next song, twist the tuning control on the radio towards the high frequency end of the dial or quickly press the optional pushbutton once. To skip to the previous song, twist the tuning control towards the low frequency end of the dial or quickly press the optional pushbutton twice. (Hint: when twisting the tuning control on the radio, twist it in the desired direction and then back to the starting point. This way the tuner always remains in the same position)

In sequential mode, to skip to the next folder, double twist the tuning control on the radio towards the high frequency end of the dial. To skip to the previous folder, double twist the tuning control towards the low frequency end of the dial. To reset to the first song, triple twist the tuning control towards the low frequency end of the dial.

To toggle between pause and playback, twist the volume control on the radio back and forth twice towards the direction of lower volume or push and hold the optional pushbutton. When the audio is paused, the status LED on the optional pushbutton will blink slowly.

If the USB module is paused for more than 10 seconds, audio will revert back to the radio. If a play command is then issued, the USB module will continue from where it left off. If the USB module is left in pause for more than 10 minutes, it will start playing the current song over from the beginning once play is resumed.

Changing Mode: To change between random and sequential playback, start by placing the USB-1 in pause as previously described. To select random playback, twist the tuning control on the radio towards the high frequency end of the dial or quickly press the optional pushbutton once. A single beep tone will confirm the setting. To select sequential playback, twist the tuning control towards the low frequency end of the dial or quickly press the optional pushbutton twice. A double beep tone will confirm the setting. Take the USB-1 out of pause to start playback using the new settings.



Suggested File Layout

File Structure: The USB drive must be formatted in FAT12, FAT16 or FAT32 format using a MBR Primary partition. The name of the drives can be anything, so you may want to name them after the type of audio on them, i.e. Rock and Roll, Easy listening, Audio Books, etc.

Audio files must be in standard mp3 format and file names must use the .mp3 extension. Files not conforming to this specification will be ignored.

Each folder, including the root, can contain up to 250 files and an unlimited number of folders. (1750 folders and 65534 files maximum) In this manner the root folders could use the artist names with the subfolders named for each album, or the root folders could be name for music genres, etc.

Since indexing the drive takes a bit of time, the USB-1 will start playing a song while indexing. Non-audio files will slow the indexing process down and should be avoided. If the drive must be used for non-audio files, the audio files can go into a folder named ~Music~. The USB-1 will then only look in this folder, speeding up the indexing process.

The USB-1 will place two files named ~AD_USB0/1.TXT at the root level. These files are used by the USB-1 for housekeeping and should not be modified.

Troubleshooting:

No Audio: Verify that the USB drive is formatted correctly and contains valid mp3 audio files using the .mp3 extension.

Long Delays: If the USB-1 is set to sequential playback and you skip songs/folders while the first song is playing, it may take a while for the next song to start playing if the indexing process has not yet completed.

The drive may have a corrupted file table. Reformat the drive as FAT16 or FAT32 and recopy your files onto the drive.

Specifications:

File System:

Supported Formats:	FAT12, FAT16, FAT32 MBR Primary partition only
Maximum Root Folders:	250
Maximum Total Folders:	1750
Maximum Files/Folder:	250
Maximum Total Files:	65534

MP3 Decoder:

Maximum Sample Rate:	48kHz MPEG1, 24kHz MPEG2 12kHz MPEG2.5
Minimum Sample Rate:	32kHz MPEG, 16kHz MPEG2 8kHz MPEG2.5
Maximum Data Rate:	320kb/s MPEG1 160kb/s MPEG2, MPEG2.5
Minimum Data Rate:	32kb/s MPEG1 8kb/s MPEG2, MPEG2.5

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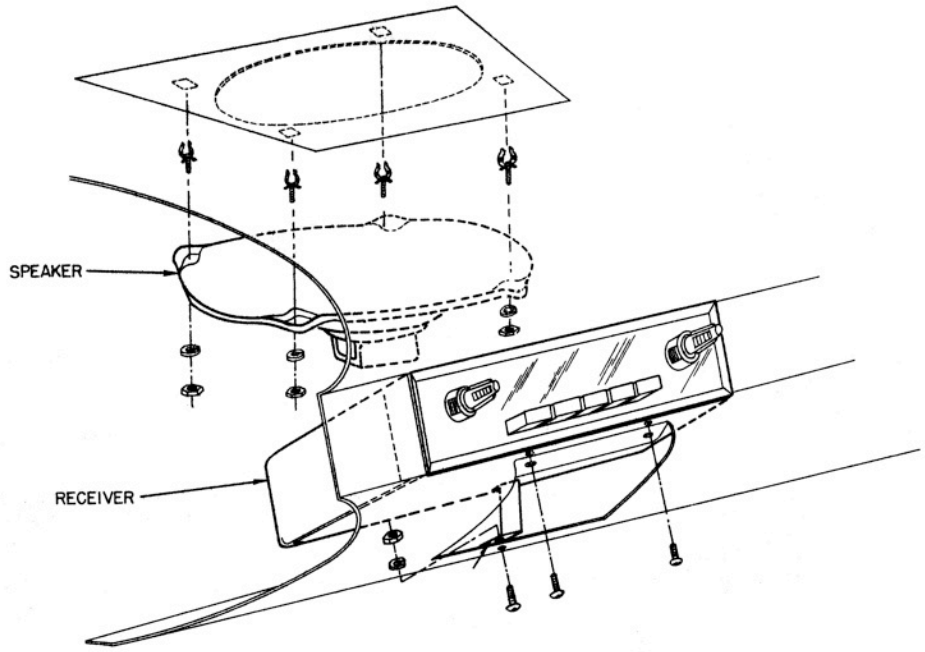
Aurora Design
USB-1
USB Adapter



User Operation Manual

UNIVERSAL SERIAL BUS