

# Ford Audio

*CD changer emulator with Bluetooth functionality*

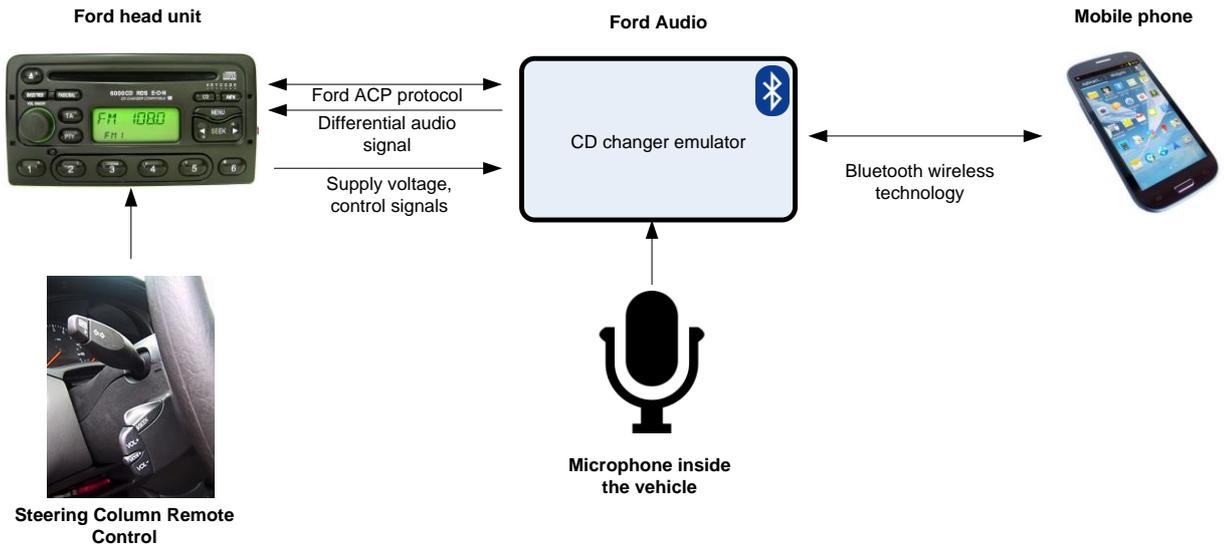


Dovydas Rušinskas  
[www.electronic.lt](http://www.electronic.lt)

# 1 Introduction

This device (“Ford Audio”) is a CD changer emulator which integrates Bluetooth Audio playback (A2DP) and Bluetooth Hands free (HFP) music streaming into your car stereo system.

This device is a replacement of original CD changer. It can be easily installed and used. The installation and usage are the same as CD changer's installation and usage.



## Features:

- Plug & play, CDC alternative
- Easy to install, no damage to original car decoration
- Wireless Bluetooth A2DP music streaming into factory car stereo system.
- Hands free phone call via factory car stereo system.
- Controlled via car radio buttons and steering wheel buttons.
- Excellent quality sound from radio speakers and from microphone for HFP and A2DP.
- Supports connected with only one Bluetooth device each time. Supports Bluetooth enabled devices like iPhone, Android phone, other Bluetooth capable phones, Bluetooth enabled GPS, etc.
- Bluetooth distance limitation: 6-8 meters.
- Bluetooth pairing needs to be performed only once.
- Supports Bluetooth Voice Dialing. Special for mobile phones supporting voice dialing over Bluetooth.
- Compatible with Bluetooth version 2.0 + EDR, and downward compatible with lower Bluetooth version. Supporting A2DP v1.2 and AVRCP v1.4 profiles with hardware SBC decoder enables audio stream over Bluetooth and remote control. Also supporting HSP v1.2 and HFP v1.5 profiles.
- After pairing is completed, your phone will automatically connect to Ford Audio upon radio will be switched on or once your phone is back into discoverable distance.

## Specifications:

- Input voltage: 11V~14.6V DC
- Operational current: 140 mA
- Standby current: 0 mA
- Operating temperature: -10°C~+80°C
- Stereo DAC resolution: 20bit
- SN Ratio: -90dB
- Frequency response: 20 Hz – 20 kHz
- Mono ADC resolution: 16 bit
- Device case is made of plastic

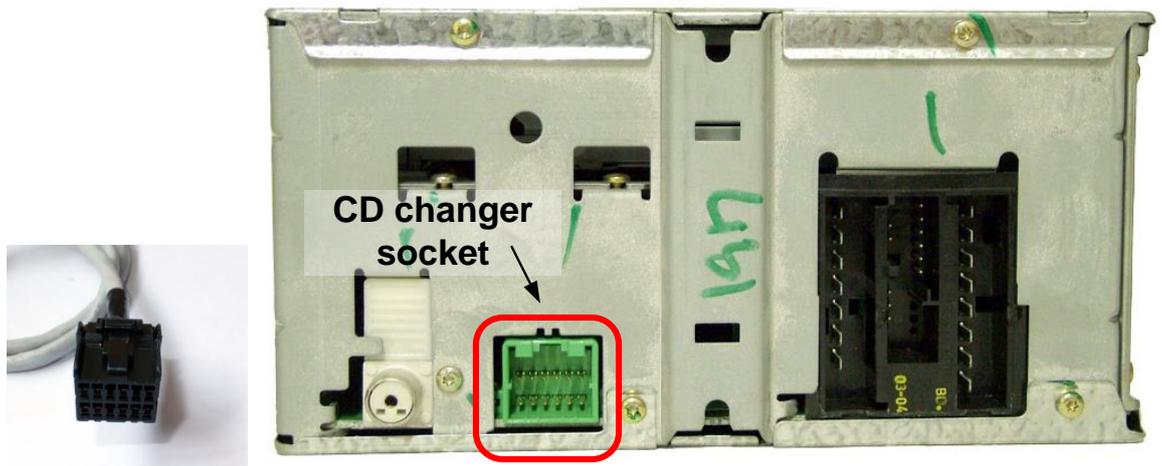
## 2 Installation

### 2.1 Device installation

Head unit must be marked "CD Changer compatible". Device is compatible with these head units: 4050RDS, 4500, 4600RDS, 5000RDS, 5000RDS EON, 6000CD RDS EON, 6000 MP3, 7000RDS.



You just need to connect device to the CD changer connector at the end of head unit. Firstly remove your cars head unit and connect CD changer emulator to the socket at the back. It is recommended not to disconnect power cord from head unit because later it will ask for radio code.



### 2.2 Connecting microphone

Open CD changer emulator case. Inside you will find two pins labeled MIC. There you must connect electret microphone considering the marked polarity.

### 3 Controlling device

First, the car radio must be turned on. Then pressing the CD button on the front panel activates the CD changer emulator input.

If the CD changer emulator is connected to a radio with an internal CD player (e.g. 6000CD RDS EON), it is possible to use the internal CD player normally with this emulator. Pressing the CD button on the front panel of the radio will turn on the internal CD player and pressing again the CD button will turn on CD changer emulator input.

Device can be controlled by head unit front panel buttons or by steering column remote control buttons.

It is possible to forward, back, fast forward, rewind, pause, answer/reject call, activate voice dial and initiate pairing.

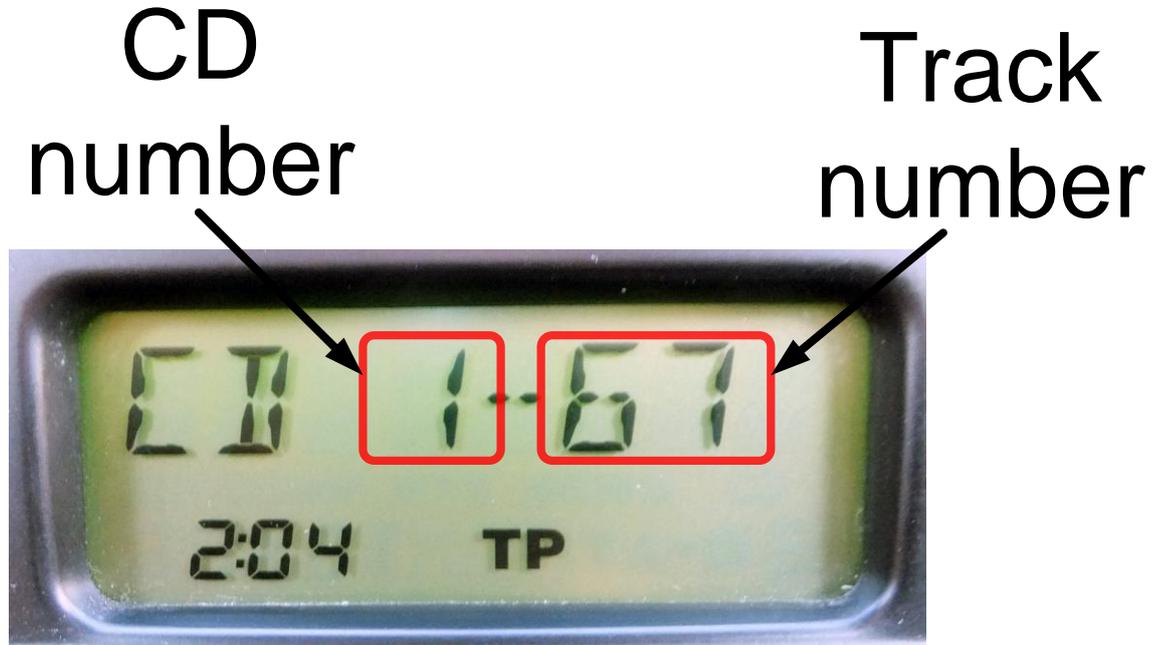
Head unit button	Function
1	Play/Pause Music
2	Answer Call
3	Reject Call*
4	End Call*
5	Voice Dial
6	Enter Pairing Mode for limited time
Seek > (short press)	Next song
Seek > (long press)	Start Fast Forward*
Seek < (short press)	Previous song
Seek < (long press)	Start Rewind*

Steering column remote control button	Function
Mode (short press)	Play/Pause Music
Seek > (short press)	Next song
Seek > (long press)	Start Fast Forward*
Seek < (short press)	Previous song
Seek < (long press)	Start Rewind*

\* Some of the functions operation depends on the mobile device software and configuration

## 4 Indication

Emulator use radio LCD indicator to display main information. CD number and track number fields are used to inform about CD changer emulator’s mode and status.



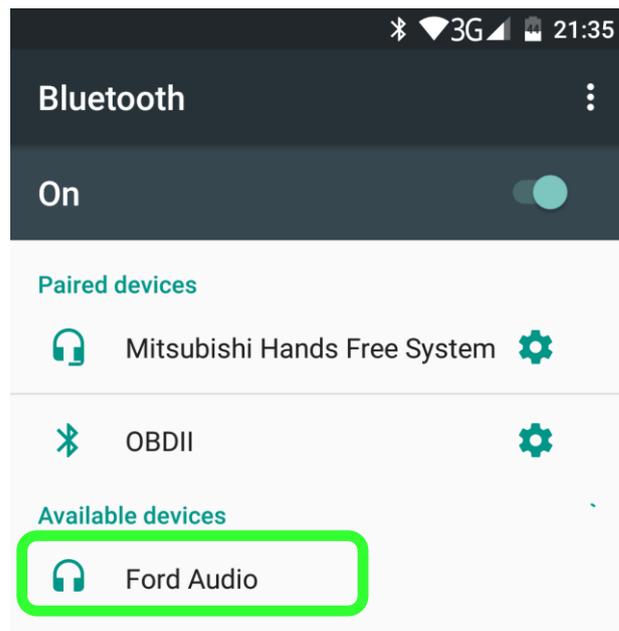
Status	Number		Description
	CD	Track	
Not connected to Bluetooth device	1	“99” – “01” Declining number	Pairing mode (visible). Declining number indicates how much time is left until the end of the pairing mode.
		“00”:	End of pairing cycle (invisible). Ready for new pairing cycle (press button “6”).
Connected to Bluetooth device	empty	“08”, “80” displayed alternately	Playing (streaming)
		“88”	Paused
		“00”	Stopped

Numbers in minutes and seconds fields are used only for debug information (Minutes: Playing status; Seconds: Received packets from Bluetooth module).

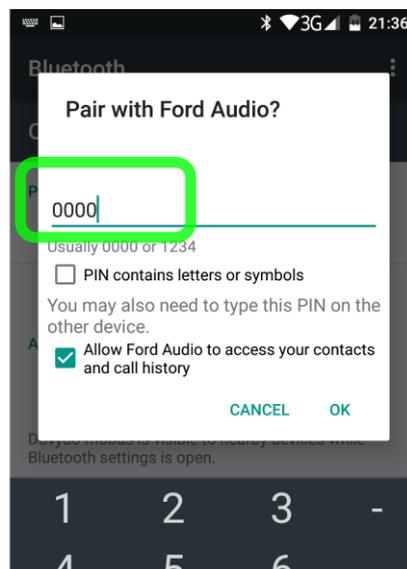
## 5 How to Pair a Cell Phone to a device

Simple steps to pair a cell phone to a device:

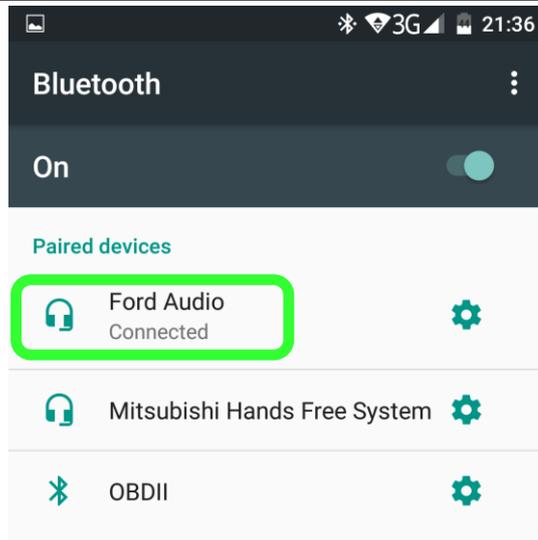
1. Put your CD changer emulator in "pairing mode". If there is no paired phone, simply turn on device and try to pair for limited time. If pairing cycle ended with no success or you are already paired with another phone, press button "6" on head unit and initiate new pairing cycle.
2. Use the cell phone to "find" the CD change emulator with name "Ford Audio".



3. Select founded device. If prompted for a passkey, enter 0000 (four zeros). Note: Do not be alarmed if your phone does not prompt you for a passkey, because many phones do not.



4. That's it! The CD changer emulator and phone are now paired. The functionality on the emulator will depend on the software and operation of the cell phone.



Note: if hands free function is enabled, all incoming calls will be forwarded to “Ford audio” device. If hands free function is unnecessary you must disable this by disabling “phone audio” in mobile phone’s Bluetooth settings.

