

Ford Data Interface with SWC 2007-up*

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INTERFACE FEATURES

- Provides accessory power (12-volt 10-amp)
- Retains R.A.P. (retained accessory power)
- Provides NAV outputs (parking brake, reverse, speed sense)
- Retains audio controls on the steering wheel
- Retains RSE (rear seat entertainment)
- Retains SAT (satellite radio)
- Retains SYNC
- Retains the factory AUX-IN jack
- Can be used in both non-amplified and amplified models (including Sony/THX)
- Retains balance and fade (excluding Sony/THX)
- Micro "B" USB updatable

INTERFACE COMPONENTS

- AX-FD1-SWC interface
- AX-FD1-SWC harness
- 16-pin harness with stripped leads
- Female 3.5mm connector with stripped leads

APPLICATIONS

FORD	FORD (CONT)	FORD (CONT)	FORD (CONT)	MAZDA
Econoline (w/ CD) 2009-up	Explorer Sport Trac	F-250/350/450/550 2011-2012	Mustang 2009-2014	Tribute 2008-2011
Edge 2007-2010	(w/ NAV) 2009-2010	F-250/350/450/550 XLT, XL	Taurus 2010-2012	MERCUY
Escape 2008-2012	F-150 * 2009-2012	(w/ CD) 2013-2016	LINCOLN	Mariner 2008-2011
Expedition 2007-2014	F-150 STX/FX2 base/XLT base	F-650/750 (w/ CD) 2016-up	MKX 2007-2010	Milan 2010-2011
Explorer (w/ NAV) 2009-2010	F-150 STX/XLT base	2013 Focus 2008-2011	MKZ 2007-2009	
		2014 Fusion 2010-2012	Navigator 2007-2014	

* XL models must be equipped with a CD player

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TOOLS REQUIRED

- Wire cutter • Crimp tool • Solder gun • Tape
- Connectors (example: butt-connectors, bell caps, etc.) • Small flat-blade screwdriver

CAUTION! All accessories, switches, climate controls panels, and especially air bag indicator lights must be connected before cycling the ignition. Also, do not remove the factory radio with the key in the on position, or while the vehicle is running.

CONNECTIONS TO BE MADE

Attention! This interface will work with models that are either Sony/THX amplified, or non-amplified. Please follow the instructions carefully for your model vehicle. Failure to do so will result in either no sound, or low sound. If you are unsure if your vehicle is factory amplified or not, please contact your local dealership.

For models *without* a Sony/THX amplifier:

From the 16-pin harness with stripped leads to the aftermarket radio:

- Connect the **Red** wire to the accessory wire.

Note: *If installing an AX-LCD (sold separately), there will be an accessory wire there to connect as well.*

- If the vehicle is equipped with a factory subwoofer, connect the **Blue/White** wire to the amp turn on wire.
- If the aftermarket radio has an illumination wire, connect the **Orange/White** wire to it.
- If the aftermarket radio has a mute wire and the vehicle is equipped with SYNC, connect the **Brown** wire to it. If the mute wire is not connected, the radio will turn off when SYNC is activated.
- Connect the **Gray** wire to the right front positive speaker output.
- Connect the **Gray/Black** wire to the right front negative speaker output.
- Connect the **White** wire to the left front positive speaker output.
- Connect the **White/Black** wire to the left front negative speaker output.

The following (3) wires are only for multimedia/navigation radios that require these wires.

- Connect the **Blue/Pink** wire to the VSS/speed sense wire.
- Connect the **Green/Purple** wire to the reverse wire.
- Connect the **Light Green** wire to the parking brake wire
- Tape off and disregard the following (4) wires, they will not be used in this application: **Green, Green/Black, Purple, Purple/Black.**

From the AX-FD1-SWC harness to the aftermarket radio:

- Connect the **Black** wire to the ground wire.
- Connect the **Yellow** wire to the battery wire.
- Connect the **Blue** wire to the power antenna wire.
- Tape off and disregard the **Blue/White** wire, it will not be used in this application.
- Connect the **Green** wire to the left rear positive speaker output.
- Connect the **Green/Black** wire to the left rear negative speaker output.
- Connect the **Purple** wire to the right rear positive speaker output.
- Connect the **Purple/Black** wire to the right rear negative output.
- If the vehicle is equipped with SYNC, connect the **Red** and **White** RCA jacks labeled “RSE/SYNC/SAT” to the audio AUX-IN jacks.
- If the vehicle is equipped without SYNC, connect the **Red** and **White** RCA jacks labeled “FROM 3.5” to the audio AUX-IN jacks.
- The DIN jack is to be used with the optional AX-LCD (sold separately) to retain SYNC information.
 - Connect the **Red** wire to accessory power.
- If the vehicle is equipped with a factory subwoofer, connect the **White** RCA jack labeled “SUBWOOFER” to the subwoofer out jack.
- Disregard the **Red** RCA jack labeled “CENTER CHANNEL”, it will not be used in this application.

Continue to 3.5mm jack steering wheel control retention

CONNECTIONS TO BE MADE (CONT)

Attention! This interface will work with models that are either Sony/THX amplified, or non-amplified. Please follow the instructions carefully for your model vehicle. Failure to do so will result in either no sound, or low sound. If you are unsure if your vehicle is factory amplified or not, please contact your local dealership.

For models *with* a Sony/THX amplifier:

From the 16-pin harness with stripped leads to the aftermarket radio:

- Connect the **Red** wire to the accessory wire.

Note: *If installing an AX-LCD (sold separately), there will be an accessory wire there to connect as well.*

- Connect the **Blue/White** wire to the amp turn on wire. This wire must be connected to hear sound from the factory amplifier.
- If the aftermarket radio has an illumination wire, connect the **Orange/White** wire to it.
- If the aftermarket radio has a mute wire and the vehicle is equipped with SYNC, connect the **Brown** wire to it. If the mute wire is not connected, the radio will turn off when SYNC is activated.
- Connect the **Gray** wire to the right front positive speaker output.
- Connect the **Gray/Black** wire to the right front negative speaker output.
- Connect the **White** wire to the left front positive speaker output.
- Connect the **White/Black** wire to the left front negative speaker output.
- Connect the **Green** wire to the left rear positive speaker output.
- Connect the **Green/Black** wire to the left rear negative speaker output.
- Connect the **Purple** wire to the right rear positive speaker output.
- Connect the **Purple/Black** wire to the right rear negative output.

The following (3) wires are only for multimedia/navigation radios that require these wires.

- Connect the **Blue/Pink** wire to the VSS/speed sense wire.
- Connect the **Green/Purple** wire to the reverse wire.
- Connect the **Light Green** wire to the parking brake wire

From the AX-FD1-SWC harness to the aftermarket radio:

- Connect the **Black** wire to the ground wire.
 - Connect the **Yellow** wire to the battery wire.
 - Connect the **Blue** wire to the power antenna wire.
 - **For NAV models only:** Connect the **Blue/White** wire from the 24-pin connector to the amp turn on wire. This wire must be connected to hear sound from the factory amplifier.
 - If the vehicle is equipped with SYNC, connect the **Red** and **White** RCA jacks labeled “RSE/SYNC/SAT” to the audio AUX-IN jacks.
 - If the vehicle is equipped without SYNC, connect the **Red** and **White** RCA jacks labeled “FROM 3.5” to the audio AUX-IN jacks.
 - The DIN jack is to be used with the optional AX-LCD (sold separately) to retain SYNC information.
 - Connect the **Red** wire to accessory power.
 - Connect the **White** RCA jack to the subwoofer out jack.
 - Connect the **Red** RCA jack to the center channel out jack on the radio/processor.
- Note:** If this jack is not present on the aftermarket radio, just leave be. Only the center channel speaker will be lost.
- Tape off and disregard the following (4) wires, they will not be used in this application: **Green, Green/Black, Purple, Purple/Black.**

Continue to 3.5mm jack steering wheel control retention

CONNECTIONS TO BE MADE (CONT)

3.5mm jack steering wheel control retention:

- The 3.5mm jack is to be used to retain audio controls on the steering wheel.
- For the radios listed below, connect the included *female 3.5mm connector with stripped leads* onto the male 3.5mm SWC jack from the AX-FD1-SWC. Any remaining wires tape off and disregard.
 - **Eclipse:** Connect the steering wheel control wire, normally **Brown**, to the **Brown/White** wire of the connector. Then connect the remaining steering wheel control wire, normally **Brown/White**, to the **Brown** wire of the connector.
 - **Metra OE:** Connect the steering wheel control Key 1 wire (**Gray**) to the **Brown** wire.
 - **Kenwood or select JVC with a steering wheel control wire:** Connect the **Blue/Yellow** wire to the **Brown** wire.
Note: If your Kenwood radio auto detects as a JVC, manually set the radio type to Kenwood. See the instructions under changing radio type.
 - **XITE:** Connect the steering wheel control SWC-2 wire from the radio to the **Brown** wire.
 - **Parrot Asteroid Smart or Tablet:** Connect the 3.5mm jack into the AX-SWC-PARROT (sold separately), and then connect the 4-pin connector from the AX-SWC-PARROT into the radio.
Note: The radio must be updated to rev. 2.1.4 or higher software.
 - **Universal “2 or 3 wire” radio:** Connect the steering wheel control wire, referred to as Key-A or SWC-1, to the **Brown** wire of the connector. Then connect the remaining steering wheel control wire, referred to as Key-B or SWC-2, to the **Brown/White** wire of the connector. If the radio comes with a third wire for ground, disregard this wire.
Note: After the interface has been programmed to the vehicle, refer to the manual provided with the radio for assigning the SWC buttons. Contact the radio manufacturer for more information.
- **For all other radios:** Connect the 3.5mm jack from the AX-FD1-SWC into the jack on the aftermarket radio designated for an external steering wheel control interface. Please refer to the aftermarket radios manual if in doubt as to where the 3.5mm jack goes to.

INSTALLING THE AX-FD1-SWC

With the key in the off position:

- Connect the 16-pin harness with stripped leads, and the AX-FD1-SWC harness, into the interface.

Attention! Do not connect the AX-FD1-SWC harness to the wiring harness in the vehicle just yet.

Attention! If retaining steering wheel controls, ensure that the jack/wire is connected to the radio before proceeding. If this step is skipped, the interface will need to be reset for the steering wheel controls to function.

PROGRAMMING THE AX-FD1-SWC

For the steps below, the L.E.D. located inside the interface can only be seen while active. The interface does not need to be opened to see the L.E.D.

- Start the vehicle.
- Connect the AX-FD1-SWC harness to the wiring harness in the vehicle.
- The L.E.D. will initially turn on solid **Green**, then turn off for a few seconds while it auto detects the radio installed.
- The L.E.D. will then flash **Red** up to (18) times indicating which radio is connected to the interface, and then turn off for a couple of seconds. Pay close attention to how many **Red** flashes there are. This will help in troubleshooting, if need be. Refer to the L.E.D. feedback section for more information.
- After a couple seconds the L.E.D. will turn on solid **Red** while the interface auto detects the vehicle. The radio will shut off at this point. This process should take 5 to 30 seconds.
- Once the vehicle has been auto detected by the interface, the L.E.D. will turn on solid **Green**, and the radio will come back on, indicating programming was successful.
- Test all functions of the installation for proper operation, before reassembling the dash. If the interface fails to function, refer to Resetting the AX-FD1-SWC.

Note: *The L.E.D. will turn on solid **Green** for a moment, and then turn off under normal operation after the key has been cycled.*

ADJUSTING THE AX-FD1-SWC (SONY/THX ONLY)

Audio level adjustment:

- With the vehicle and radio turned on, turn the volume up 3/4 of the way.
- With a small flat-blade screwdriver, adjust the potentiometer clockwise to raise the audio level; counterclockwise to lower the audio level.
- Once at a desired level, audio level adjustment is complete.

EXTRA FEATURES

RSE, SAT and SYNC:

- If the vehicle is equipped with, rear seat entertainment, satellite radio or SYNC, the AX-FD1-SWC can retain these features.
Note: *Most Ford radios have SAT built in, so this feature is lost if so.*
- Change the source of the radio to AUX-IN; SYNC audio will start playing if SYNC has been activated.
- The display in the factory screen, or the optional AX-LCD (sold separately) will display the SYNC information.
- Listed below are the functions of the AX-LCD while using satellite radio or SYNC:
 - Arrow up—Channel up (only in SAT or USB mode)
 - Arrow down—Channel down (only in SAT or USB mode)
 - Enter—Selects current item on the screen
 - Return/ESC—Exits to the previous screen
- To access RSE or SAT, press and hold the MEDIA button on the steering wheel for 2 seconds. This will switch to the next source available. Each time the MEDIA button is pressed for 2 seconds the source will change. The sequence of sources are; SYNC/RSE/SAT. To temporarily disable SYNC/ RSE/SAT, press and hold the MEDIA button for 3 seconds. To turn it back on, press the MEDIA button for 2 seconds. The factory screen, or the AX-LCD will provide a visual confirmation of which source is active.

STEERING WHEEL CONTROL EXTRA SETTINGS

L.E.D. feedback

The (18) Red L.E.D. flashes represent what brand radio the AX-FD1-SWC believes it is connected to. Each flash represents a different radio manufacturer. For example, if you are installing a JVC radio, the AX-FD1-SWC will flash (5) times. Following is a legend that dictates which manufacturer corresponds to which flash.

L.E.D. feedback legend

1 flash - Eclipse (Type 1) †	10 flashes - Clarion (Type 2) †
2 flashes - Kenwood ‡	11 flashes - Metra OE
3 flashes - Clarion (Type 1) †	12 flashes - Eclipse (Type 2) †
4 flashes - Sony / Dual	13 flashes - LG
5 flashes - JVC	14 flashes - Parrot **
6 flashes - Pioneer / Jensen	15 flashes - XITE
7 flashes - Alpine *	16 flashes - Phillips
8 flashes - Visteon	17 flashes - TBD
9 flashes - Valor	18 flashes - JBL

* **Note:** *If the AX-FD1-SWC flashes Red (7) times, and you do not have an Alpine radio connected to it, that means the AX-FD1-SWC does not detect a radio connected to it. Verify that the 3.5mm jack is connected to the correct steering wheel jack/wire in the radio.*

** **Note:** *Part number AX-SWC-PARROT is required (sold separately). Also, the Parrot radio must be updated to rev. 2.1.4 or higher through www.parrot.com.*

† **Note:** *If you have a Clarion radio and the steering wheel controls do not work, change the radio type to the other Clarion radio type; same for Eclipse. The following section explains how to do this.*

‡ **Note:** *If you have a Kenwood radio and the L.E.D. feedback comes back as showing as a JVC radio, change the radio type to a Kenwood. The following section explains how to do this.*

Continued on the next page

STEERING WHEEL CONTROL SETTINGS (CONT)

Attention: The Axxess Updater App can also be used to program the following (3) sub-sections as well, pending that the interface has been initialized and programmed.

Changing radio type

If the LED flashes do not match the radio you have connected, you must manually program the AX-FD1-SWC to tell it what radio it is connected to.

1. After (3) seconds of turning the key on, press and hold the Volume-Down button on the steering wheel until the L.E.D. in the AX-FD1-SWC goes solid.
2. Release the Volume-Down button; the L.E.D. will go out indicating we are now in Changing Radio Type mode.
3. Refer to the Radio Legend to know which radio number you would like to have programmed.
4. Press and hold the Volume-Up button until the L.E.D. goes solid, and then release. Repeat this step for the desired radio number you have selected.
5. Once the desired radio number has been selected, press and hold the Volume-Down button on the steering wheel until the L.E.D. goes solid. The L.E.D. will remain on for about (3) seconds while it stores the new radio information.
6. Once the L.E.D. goes off, the Changing Radio Type mode will then end. You can now test the steering control wheel controls.

Note: *If at any time the user fails to press any button for a period longer than (10) seconds, this process will abort.*

Radio legend

- | | | |
|---------------------|----------------------|--------------|
| 1. Eclipse (Type 1) | 7. Alpine | 13. LG |
| 2. Kenwood | 8. Visteon | 14. Parrot |
| 3. Clarion (Type 1) | 9. Valor | 15. XITE |
| 4. Sony/Dual | 10. Clarion (Type 2) | 16. Phillips |
| 5. JVC | 11. Metra OE | 17. TBD |
| 6. Pioneer/Jensen | 12. Eclipse (Type 2) | 18. JBL |

Remapping the steering wheel control buttons

Let's say you have AX-FD1-SWC initialized and you want to change the button assignment for the steering wheel control buttons. For example, you would like Seek-Up to become Mute. Follow the steps below to remap the steering wheel control buttons:

1. Ensure the AX-FD1-SWC is visible so you can see the L.E.D. flashes to confirm button recognition.

Tip: *Turning the radio off is recommended.*

2. Within the first twenty seconds of turning the ignition on, press and hold the Volume-Up button on the steering wheel until the L.E.D. goes solid.
3. Release the Volume-Up button, the L.E.D. will then go out; The Volume-Up button has now been programmed.
4. Follow the list in the Button Assignment Legend to reference the order in which the steering wheel control buttons need to be programmed.

Continued on the next page

STEERING WHEEL CONTROL SETTINGS (CONT)

Note: If the next function on the list is not on the steering wheel, press the Volume-Up button for (1) second until the L.E.D. comes on, and then release the Volume-Up button. This will tell the AX-FD1-SWC that this function is not available and it will move on to the next function.

5. To complete the remapping process, press and hold the Volume-Up button on the steering wheel until the L.E.D. in the AX-FD1-SWC goes out.

Button assignment legend

- | | |
|-------------------|--------------------------|
| 1. Volume-Up | 10. Band |
| 2. Volume-Down | 11. Play/Enter |
| 3. Seek-Up/Next | 12. PTT (Push to Talk) * |
| 4. Seek-Down/Prev | 13. On-Hook * |
| 5. Source/Mode | 14. Off-Hook * |
| 6. Mute | 15. Fan-Up ** |
| 7. Preset-Up | 16. Fan-Down ** |
| 8. Preset-Down | 17. Temp-Up ** |
| 9. Power | 18. Temp-Down ** |

* Not applicable if the vehicle is equipped with SYNC

** Not applicable in this application

Note: Not all radios will have all of these commands. Please refer to the manual provided with the radio, or contact the radio manufacturer for specific commands recognized by that particular radio.

Dual assignment instructions (long button press)

The AX-FD1-SWC has the capability to assign (2) functions to a single button, except Volume-Up and Volume-Down. Follow the steps below to program the button(s) to your liking.

Note: Seek-Up and Seek-Down come pre-programmed as Preset-Up and Preset-Down for a long button press.

1. Turn on the ignition but do not start the vehicle.
2. Press and hold down the steering wheel control button that you want to assign a long press function to for about (10) seconds, or until the L.E.D. flashes rapidly. At this point release the button; the L.E.D. will then go solid.
3. Press and release the Volume-Up button the number of times corresponding to the new button number selected. Refer to the Dual Assignment Legend. The L.E.D. will flash rapidly while the Volume-Up button is being pressed, and then go back to a solid L.E.D. once released. Go to the next step once the Volume-Up button has been pressed the desired number of times.
Caution: If more than (10) seconds elapses between pressing the Volume-Up button, this procedure will abort, and the L.E.D. will go out.
4. To store the long press button in memory, press the button that you assigned a long press button to (the button held down in Step 2). The L.E.D. will now go off indicating the new information has been stored.

Note: These steps must be repeated for each button you would like to assign a dual purpose feature to. To reset a button back to its default state, repeat Step 1, and then press the Volume-Down button. The L.E.D. will go out, and the long press mapping for that button will be erased.

Continued on the next page

STEERING WHEEL CONTROL SETTINGS

(CONT)

Dual assignment legend

- | | | | |
|-------------------|----------------|----------------|-----------------|
| 1. Not allowed | 6. ATT/Mute | 11. Play/Enter | 15. Fan-Up * |
| 2. Not allowed | 7. Preset-Up | 12. PTT | 16. Fan-Down * |
| 3. Seek-Up/Next | 8. Preset-Down | 13. On-Hook | 17. Temp-Up * |
| 4. Seek-Down/Prev | 9. Power | 14. Off-Hook | 18. Temp-Down * |
| 5. Mode/Source | 10. Band | | |

* Not applicable in this application

TROUBLESHOOTING

Resetting the AX-FD1-SWC

1. The **Blue** reset button is located inside the interface, between the two connectors. The button is accessible outside the interface, no need to open the interface.
2. Press and hold the reset button for two seconds, and then let go to reset the interface.
3. Refer to “Programming the Interface” from this point.



AX-FD1-SWC

INSTALLATION INSTRUCTIONS



IMPORTANT

If you are having difficulties with the installation of this product, please call our Tech Support line at 1-800-253-TECH. Before doing so, look over the instructions a second time, and make sure the installation was performed exactly as the instructions are stated. Please have the vehicle apart and ready to perform troubleshooting steps before calling.



KNOWLEDGE IS POWER

Enhance your installation and fabrication skills by enrolling in the most recognized and respected mobile electronics school in our industry. Log onto www.installerinstitute.com or call 800-354-6782 for more information and take steps toward a better tomorrow.



Metra recommends MECP certified technicians