

SM316

DIGITAL MEDIA AM/FM RECEIVER

FEATURING 3.2" (81mm) WIDESCREEN DIGITAL TFT MONITOR



SOUNDSTORM®
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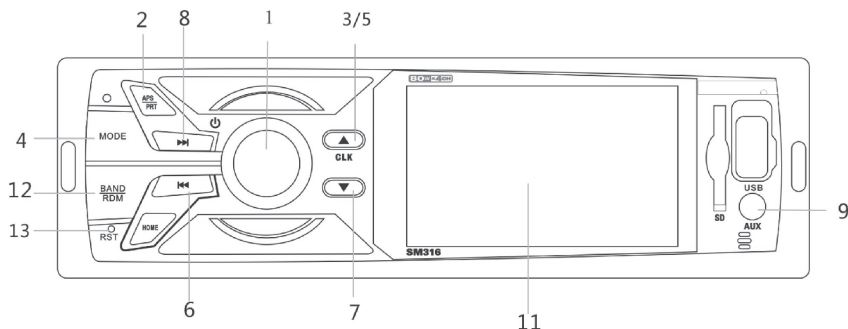


User Manual

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DIGITAL TFT MONITOR

Front Panel Instruction



1. Power ON/ OFF and SEL (Turning knob for volume control and menu navigation)
2. APS/RPT button
3. Clock setting (Long press for 3 seconds to adjust the clock)
4. Mode switching(FM/USB/SD/AUX)
5. UP button
6. "Back" button/ Fast backward
7. DN button
8. "Next" button/ Fast forward
9. AUX-IN
10. HOME
11. TFT screen
12. BAND (FM1/FM2/FM3/AM1/AM2)
13. RST (RESET)


To ensure safety while driving and comply with laws, Drivers should not watch video or operate the video device while driving.

Main functions:

- Support maximum capacity 32GB pendrive/ SD/ MMC card.
- Support audios in the formats of WMA, MP3, WAV, OGG, AAC,RA, FLAC,AC3,MP2, RA etc.
- Support the decoding of multiple videos including AVI, MP4, TS, ASF, RMVB, FLV, RMVB,PMP,MPG etc.
- Support multiple picture formats such as JPEG/GIF/BMP/PNG etc.
- Support lyric and ID3 display
- Support CVBS video and audio output
- Support AM and FM radio

Basic Operation:

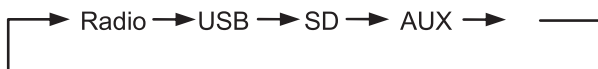
1. Power on/off

Press the /vol button to turn the player on. Similarly, press it and hold this button for 2 seconds in power-on status to power off.

- Starting your vehicle's engine can create voltage fluctuations; therefore only turn on the player when the engine is already running. Conversely, first stop the engine, and only then turn off the player when powering off.
- When you turn on the player, it remembers the last volume and tone settings.

2. Mode switching

You choose from the following signal sources by pressing the **MODE** button:



- When you turn on the player it reverts to the last used signal source
 - If the USB and SD sockets are empty, only the FM radio and AUX modes are available
 - If an external unit is connected to both the USB port and the SD socket, then the USB port takes precedence. In this case you cannot select the SD input by pressing the **MODE** button.
 - The player always starts playback from the last connected external unit.
-

E.g., if you have a memory stick connected to the USB port and plug in an SD card, the card becomes active and playback starts automatically.

3. SETTING THE VOLUME

Turn the **SEL** button to adjust the volume to the desired level.

· If the player is currently not in the volume control mode, then keep pressing the turning knob until you reach the VOL mode.

· You can adjust the volume between 0 and 64. When the volume is set to “0”, the speaker switches off.

· If you make no change for 3 seconds, the player automatically reverts to the previous function.

Press the **SEL** button repeatedly to select the setting you wish to adjust:



You can adjust the setting by turning the knob.

· If you make no change for 3 seconds, the player automatically reverts to the previous function.

· By default the knob adjusts the volume




BASS	Adjust bass tone(-7....00...+7)
TREBLE	Adjust treble tone(-7....00...+7)
BALANCE	Adjust left/right balance(L15...01/00/R01...15)
FADER	Adjust front rear balance(R15...01/00/F01...15)
EQ	Adjust POP/CLASSIC/ROCK/JAZZ/EQ OFF
LOUD OFF/ON	Adjust LOUD OFF /LOUD ON
VOLUME	Volume control(00-32)
BACKLIGHT	Adjust back light (00-15)


4. MUTING THE PLAYER

You can immediately mute playback without turning off the player of changing the volume by pressing the **MUTE** button. Pressing the button

again or turning the volume button returns to the original volume.
When the player is muted, the display shows a speaker icon crossed in red and "MUTE" text.

5. SETTING THE TIME AND DATE

In the power-on status, press "/VOL" button briefly, the current date and time is show on the display. Then, press and hold the **6/SCK** button for 2 seconds, the "Hour" item is blinking, you can adjust the desired value by press the  and  buttons, press **6/SCK** button repeatedly switch to other item setting. Finally, press **6/SCK** for 2 seconds to confirm the adjustment.

When the date and time showing, if you do not press any button for 10 seconds or press "/VOL" button again, the display reverts to the original mode.

FM Radio Operation

When you turn on the player, the FM receiver will come on if it was the last selected signal source, or if you have removed the last used USB stick or SD card.

If needed, use the **MODE** button to select the FM receiver function.

1. AUTOMATIC TUNING AND STORAGE

To start a scan and store the currently available FM stations, press and hold the **BAND** button for 2 seconds. You can follow the scanning and memorizing process on the display.

If there are enough channels available, the player will move on to FM2 and FM3 after filling in the six slots of first band FM1.

- The player can store up to 18 FM radio stations. (FM1/FM2/FM3 with 6 channels each).
 - Keep in mind that the receiver may skip weaker stations, and you cannot influence the order in which the stations are stored.
 - If you wish to store a station in a particular slot, you need to manually tune in to its frequency and store it.
-

•If you are using the receiver at a distant place from the location where you originally stored a station (e.g., when you are traveling), you may need to find the same station again at a different frequency. The same stations often air at different frequencies in different geographical locations!

2. SELECTING A STORED FREQUENCY

Press and hold the button corresponding to the station's slot (1...6) briefly. Make sure to select the right band (FM1/FM2/FM3) first by pressing **BAND**.

3. MANUAL TUNING, STORING FREQUENCIES

Press the **◀◀** and **▶▶** button briefly to manually tune in to the desired station, or press and hold the **◀◀** and **▶▶** buttons to scan automatically for the stronger stations. The scan stops when the player reaches the next available station.

MUSIC PLAYBACK(FROM USB/SD/MMC STORAGE DEVICES)

1.If you wish to listen to MP3 tracks from a USB/SD/MMC storage device and the FM receiver is currently active, you simply need to connect the USB stick or insert the memory card. The player detects this and starts playback automatically. The display then shows the track's number, song name and the elapsed time.

•If both a USB stick and an SD/MMC card is connected at the same time, the player will play the tracks from the one you inserted last.

•If the player emits no sound or does not recognize the USB/SD/MMC memory, remove the storage device and connect it again. If this does not work either, press the **MODE** button to select the signal source.

2. Press **1/▶||** button to toggle between playback and pause.

3. Press **◀◀** and **▶▶** repeatedly to move to the previous or next track.

If you press and hold these buttons, you can jump 10 tracks forward or backward. If there are less than 10 tracks remaining at the start or end of the playlist, the player goes to the first or last track.

4. During the playback, press **2/INT** to track intro function, the player plays the first 10 seconds of every available MP3 track. If you choose to play an entire track, press **2/INT** again to exit the intro mode and continue playing the current track.

If you press **4/RDM** button during playback, the player will play all available tracks in a random order. This can make even a well-known collection of tracks exciting again. If you press the button again, playback will continue in the original order.

If you press **3/REP** button during playback, the player will change the repeat mode (repeat one, repeat folder, repeat all).

VIDEO PLAYBACK

1. During the music playback, press **5/AV** button shift to USB/SD video play.

2. During the video playback, press **⏮** and **⏭** repeatedly to move to the previous or next track. If you press and hold these buttons for a few seconds, you can fast-forward or fast-backward the current track.

3. During the video playback, press **2/INT** button briefly, the display then shows video info.

4. During the video playback, press **4/RDM** briefly to switch CVBS output mode, video signal will be output through RCA video socket and the external display device will play the video, meanwhile, the player's display will be turned off. Press **4/RDM** button again to turn off CVBS output and return to the previously display.

AUX IN

You can connect any device with a headphone output to the front panel through a 3.5 mm stereo jack.

You can listen to these portable devices in good quality through your car radio's speakers if you select the **AUX** mode by pressing the **MODE** button.

You can connect music players, multimedia players, CD/DVD players, navigation devices, cell phones, Dictaphones etc.

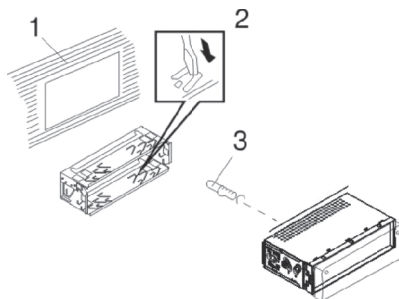
INSTALLATION

DIN FRONT-MOUNTING METHOD

1. Dashboard

2. Holder

After inserting the holder into the dashboard, select the appropriate tab according to the thickness of the dashboard material and bend them inwards to secure the holder in place.



3. Screw

1. This Player shall be installed by professionals if possible.
2. Please wire the cables in strict accordance with the drawings and specifications. Wrong wiring will cause damage to the device.
3. The power cord shall be connected upon wiring all other parts.
4. All exposed wires shall be insulated to prevent short circuit.
5. All loose wires shall be fixed upon installation.

Equipment Wiring Diagram

MODEL NO.:SM316

AM/FM/USB/SD/AUX PLAYER
3.2" TFT
12V 10A NEGATIVE GROUND



FREQUENCY RANGE:
USA AM 530KHz~1710KHz
FM 87.5MHz~107.9MHz
Euro AM 522KHz~1620KHz
FM 87.5MHz~108MHz

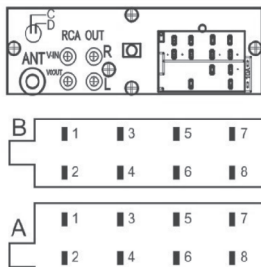
FOR TECHNICAL ASSISTANCE CALL:888-38-STORM



!!CAUTION!!

SEE INSTALLATION MANUAL FOR WIRING CONFIGURATIONS
FAILURE TO WIRE CORRECTLY MAY CAUSE PERMANENT
DAMAGE TO UNIT,AND WILL VOID ANY WARRANTY
4-8 OHM SPEAKER IMPEDANCE ONLY

ACCESSORY I/O CONNECTIONS



12-PIN MAIN WIRE HARNESS

- A4; Yellow - Constant Power (+)
- A7; Red - Accessory Power (+)
- A5; Blue/White - Remote Amp Wire (+)
- A8; Black - Ground (-)
- B5; White - Left Front (+)
- B6; White/Black - Left Front (-)
- B3; Gray - Right Front (+)
- B4; Gray/Black - Right Front (-)
- B7; Green - Left Rear (+)
- B8; Green/Black - Left Rear (-)
- B1; Violet - Right Rear (+)
- B2; Violet/Black - Right Rear (-)

C:Lt.Green -Brake
D:Violet/White -Rear Camera Input



THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES AND REGULATIONS.
OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:
1)THE DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE,AND
2)THE DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED,INCLUDING
INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION



DISPOSE OF PROPERLY

MADE IN CHINA



WARNINGS

- Before starting to use the player, read these instructions carefully, then keep them in an accessible place for future reference.
- If needed, consult a technician before installing the player to avoid damaging the product or your vehicle.
- While underway, do not do anything that distracts your attention from driving. Manipulating the player while driving can result in accidents. If needed, stop the car while manipulating the player.
- Do not listen to the player too loud. Set a volume that allows you hear external sounds while driving. Extreme volumes can also cause permanent damage to your ears.
- Spend as little time as possible watching the display. Doing so can distract your attention from the road, and result in accidents.
- Do not disassemble or tamper with the player, as that can cause fire, accidents, or electric shock. Incorrect use or installation renders the warranty void.
- Only for use in cars with a 12 V battery and a negative ground. Using the player for any other purpose can result in electric shock, damage, or fire. The player was designed exclusively for use in vehicles.
- Always use correct fuses with the proper values. When replacing a fuse, make sure that the new fuse has the same nominal value as the one you are replacing. Using a different fuse can cause fire or damage.
- Do not block the player's cooling vents, as that can cause its circuits to overheat, resulting in fire. Install the player properly to ensure adequate ventilation. The air vents around the edge must be left free.
- Make sure to connect the player correctly. Incorrect connections can result in fire or other damage.
- Before connecting/installing the player disconnect the negative pole of the car's battery. Doing so helps you prevent electric shock or short circuits.
- While installing the player never cut through cables or damage their insulation. Doing so can result in short circuit and fire.

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- Before drilling holes or inserting screws into your vehicle's body make sure you do not damage tubes or electric wires on the other side of the cover.
 - Do not connect to any electric systems of your vehicle that operate steering, brakes, or any other safety function. Doing so can result in loss of control over the vehicle, and can cause fire.
 - Do not install the player or its accessories in a location where they can prevent you from controlling the vehicle safely, e.g., between the steering wheel and the gear shift.
 - Make sure that wires do not coil around neighboring objects. Arrange cables and wires in a way that does not hinder you in driving. Wires that interfere with your movement or hang over the gear shift, the brake etc. can be extremely dangerous. (E.g., the connection cable of a media player connected to the USB port.)
 - In case of any malfunction, turn off the player immediately, and consult your distributor. Many malfunctions are very easy to spot (e.g., no sound, bad smell, smoke, an external object inside the product etc.).
 - Make sure that no external objects get into the USB socket or the memory card slot, as these can cause fatal damage.
 - When leading the connection cables make sure that their insulation does not get damaged by any sharp metal objects nearby.
 - Do not connect any cables when the device is working. Never turn on the system with the volume at the maximum level. The pop or other noise spike which can be heard when switching on can cause irreparable damage to the speakers immediately.
 - The warranty is not applicable to damage caused by irresponsible or improper installation or use.

PRECAUTIONS

CLEANING

Use a soft, dry cloth and a brush for regular cleaning. To remove stronger stains, wet the cloth slightly with water. Avoid scratching the display's surface; never wipe the display when it is dry, and do not use a coarse cloth to clean the display. Do not use detergents. Make sure no liquid gets inside the product or onto the connectors!

TEMPERATURE

Before turning on the player make sure that the temperature inside the car is between -20 °C and +55°C, as the product is only guaranteed to operate properly within this temperature range. Extreme weather conditions can damage the product.

FINDING THE RIGHT LOCATION AND INSTALLATION

When installing the product, make sure it will not be exposed to any of the following:

- direct sunlight or heat (e.g. from the heating system)
- wetness, high humidity
- a significant amount of dust
- strong vibration

USING THE USB/SD CONNECTOR

- You can connect a USB stick ("pen drive"), MP3 audio player, MP4 media player or similar devices to the player's USB port. The memory card slot can host SD/MMC cards. Supported file format for playback: MP3 audio files.
- In some cases, external USB/SD devices may not be guaranteed to work properly. Manufacturers occasionally change the internal design of their products (e.g., replace a chip used inside), which does not change the product's main technical parameters, but it can affect the operation of devices designed for a similar but previous generation product. It is therefore possible that even products of the exact same type yield different results. Do not use a USB hub; extension cords are allowed. Do not connect both a USB stick and an SD card at the same time to the player.
- It is recommended to store the tracks you wish to play in the root folder.

You can define the playback order of the tracks by renaming the files or adding a number at the front. We do not recommend the use of storage devices over 8GB because a large number of tracks can increase the time needed to access each track. Only store MP3 files for playback on the storage device; the presence of other data/files can slow down the player or interfere with playback.

- The player detects MP3 files stored in subfolders as well, up to a depth of 6 subfolders.
- In order to protect their precision connectors, it is important to always insert and remove USB/SD/MMC devices in a straight position.

If you insert a device at an angle, you can damage the connection socket on the player itself.

- SD cards are preferred over USB sticks because their design allows you to connect them in a safer and more stable way. In addition, SD cards do not stick out of the player, which reduces the risk of damaging the player by accidentally hitting the connected device or the magnetic lid. Any damage resulting from such user error is not considered as a manufacturing defect, and is not covered by the warranty.
- You can leave SD cards safely in the socket; the card fits under the closed magnetic lid.

Warnings!

The manufacturer takes no responsibility for lost or damaged data, even if such loss or damage occurs while using the player. Before connecting the storage device, it is recommended to create a backup of the data and tracks on it on your personal computer.

PROPER USAGE OF USB STICKS/SD CARDS

To avoid malfunction and errors, please observe the following:

- Carefully read the instructions of the USB/SD storage device or media player.
- Do not touch the connectors with your hand or any object; keep the connectors clean.
- Protect the USB/SD device from strong shocks.
- Do not bend, drop, disassemble or modify these devices, and protect them from humidity!

Do not use or store the devices in the following locations:

- Anywhere inside the vehicle where they are exposed to direct sunlight or high temperature.
- Any place with a high humidity or where corrosive materials are present.
- Place the devices in a location where they do not hinder you in driving.

Further important notes:

- USB/SD memory devices may not function properly at extremely high or low temperatures.
- Only use high-quality USB/SD devices. Depending on their type and condition, even such high-quality products may not always work properly. The proper operation of these devices is not always guaranteed.
- Depending on the type and condition of the USB/SD device and the settings used in the software that encoded the MP3 files, the player may not detect or play back certain files.
- The player is not guaranteed to play copy-protected files (legal copyright protection).
- The USB/SD memory device may need a certain amount of time before playback can start. If the device also includes non-audio files, the time needed for playback to start may be significant.
- The product can play files with an .mp3 extension. Do not use this extension on files that do not contain pure audio data. The player cannot process such non-audio data. The noise emitted when playing such files can damage the speakers and/or amplifiers.
- Do not remove the USB/SD device while playback is in progress. In order to protect it from potential damage, first switch to a different signal source by pressing the MODE button, and only then remove the USB/SD device.
- If you connect a portable audio player instead of a USB/SD memory through the USB port, and the device has an MSC/MTP setting, choose the MTP option. The remarks above also apply when you are connecting an audio player.

PERFORMANCE INDEX

FM TUNER

FM frequency range.....	87.5 - 107.9/87.5-108 MHz
Usable sensitivity.....	3.0 μ V
Sensitivity.....	30 dB S/N >10 dB
IF frequency.....	10.7 MHz
Channel separation.....	>45 dB
Signal/noise level.....	>50 dB

AM TUNER

AM frequency.....	530-1710/522-1620KHZ
Sensitivity.....	>40 dB
S/N.....	>45 dB

USB/SD//MMC

USB system.....	USB 1.1/2.0
Max. Current.....	500 mA
File system.....	FAT 12/16/32
Audio format.....	MP3、WMA、AAC、OGG WAV、RAFLAC、MP2
Video format.....	AVI、MP4、TS、ASF、FLV PMP、RMVB、MPG
Number of channels.....	4-CH, stereo
Channel separation.....	>55 dB
Signal/noise level.....	>60 dB

GENERAL PARAMETERS

Car Voltage system.....	12 Volt Negative GND chassis
Operation Voltage.....	14,4 V DC(11 - 15 V)
Channels of amplifier.....	2CH
VIDEO.....	2CH
Power output.....	4x 80 W max.
Speaker impedance.....	4-8 Ohm
Frequency range.....	20 - 20.000 Hz
Pre-amp output.....	1.2V (R x RCA)
Video output(CVBS).....	1.0V. (1x 2RCA)
Tone regulation	Bass, treble, classic, pop, rock, EQ off
T operation.....	-20°C+55°C
Weight.....	0.7 kg
Chassis dimensions.....	178 x 50 x 125 mm

TROUBLESHOOTING

Before going through the check list, check the wiring connection diagram firstly. If any of the problems persist after checklist has been made, consult your nearest service dealer.

Symptom	Causes	Solution
No Power	The car ignition key has not been switched on	If the power supply is properly connected to the car accessory terminal, switch the ignition key to ACC
	The fuse is blown down	Replace a new fuse
No Sound	Volume is at minimum	Adjust volume to desired level
	Wiring is not properly connected	Checking wiring connection
	Mute state	Turn off the mute function
Sound Skipping	The installation angle is more than 30°	Adjust the installation angle to less than 30°
The Operation button do not work	The built-in microcomputer is not operating properly due to interference	Press the RESET button or reinstall the front panel properly.
The Radio or automatic selection does not work	The antenna cable is not connected correctly	Connect the antenna cable correctly
	The signals are too weak	Select the station manually
Achromatic color image	Color System error	Adjust the corresponding color system