

# K2 MOST25 8.1.1 AMPLIFIER

— INSTALLATION AND USER GUIDE —

MOBRIDGE.US

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BRIDGING MEDIA, COMMUNICATION & LIFESTYLE WITH YOUR VEHICLE

**mObridge**



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# DISCLAIMER

mObridge makes every effort to try and keep the support and installation documentation up to date.

We do not reimburse or bear costs arising from installations should installation issues occur. mObridge can be contacted via email and also via its worldwide distribution network. We always recommend contacting the local distributor first, and although we endeavour to answer emails we receive in a timely manner, due to time zone differences we may not be able to respond immediately.

mObridge always recommends professional installation of these products as they are technically complex, involving optical fiber across multiple vehicle configurations and software versions within these vehicles.

In some cases, vehicles may require coding by specialist workshops and diagnostic equipment. mObridge always recommends allocating a number of hours to any installation, just in case any issues should arise.

# WELCOME

Congratulations on your purchase of a mObridge K2 MOST25 8.1.1 Amplifier series. mObridge prides itself on striving to develop and manufacture products to the highest engineering quality standards and seamlessly integrating these products with factory audiovisual systems.

The mObridge K2 MOST25 8.1.1 Amplifier is one of the most advanced aftermarket amplifiers available for MOST25 based vehicles and comes with an free and easy to use windows & macOS Graphical Interface for setting up and tuning the K2 MOST25 8.1.1 Amplifier's inbuilt DSP. This can be downloaded free from our [www.mobridge.us](http://www.mobridge.us) website.

The K2 MOST25 8.1.1 Amplifier includes channel mapping to 9 amplifier channels and one RCA output, 1024 Point Parametric Graphic Equalizer for each channel, as well as a 'Master EQ', Crossover Type and crossover points for each speaker, crossover slope, individual speaker time alignment, phase adjustment, Q factor (Both left and right), summing for subwoofers and centre channel upmixing. The user can also use the radio controls to change preset settings in the K2 MOST25 8.1.1 Amplifier for different tuning profiles.

We have included a USB port for software updates, allowing for new features to be added as they become available. The K2 MOST25 8.1.1 Amplifier can be updated by simply loading the latest software from our website and through the use of our mObridge DSP user interface. The K2 MOST25 8.1.1 Amplifier may also have system function upgrades available for purchase and download from time to time. These will also be available on our website.

We hope you enjoy your new enhanced listening experience!



# OVERVIEW

## VEHICLE COMPATIBILITY

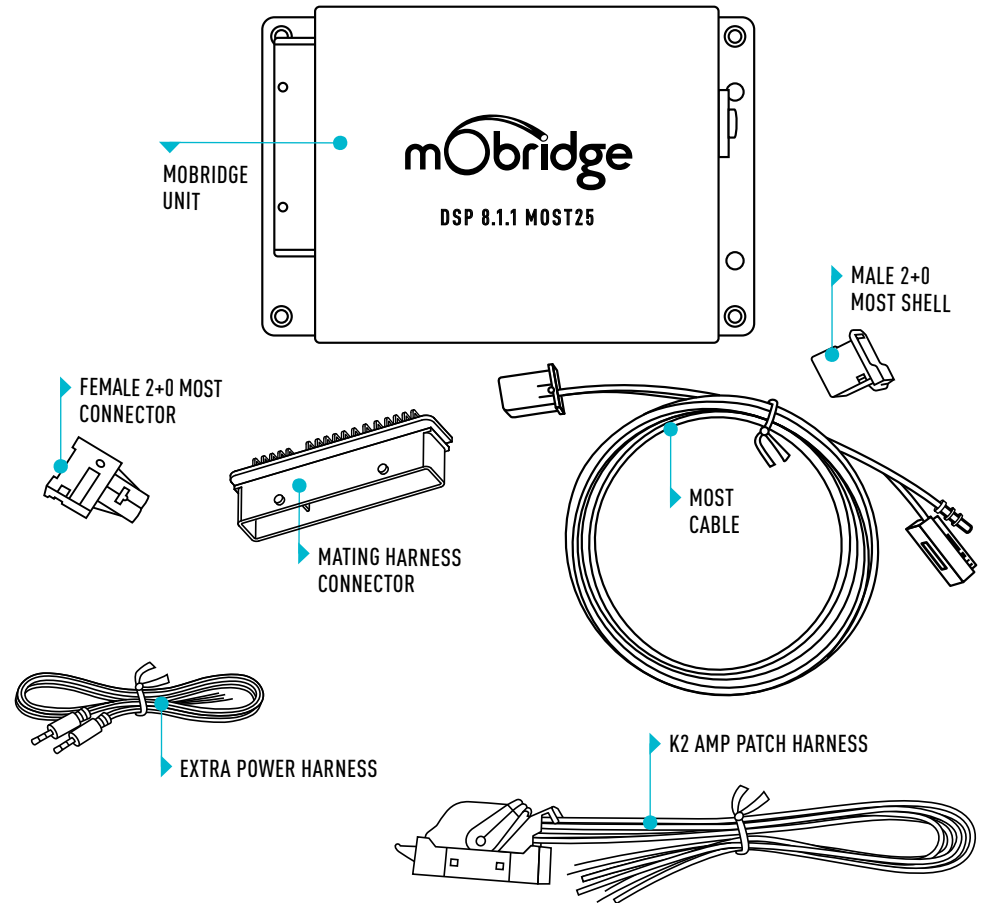
The mObridge K2 MOST25 8.1.1 Amplifier series is compatible with specific BMW, Mercedes, Audi, Porsche, Mini, Jaguar, Landrover, Toyota and Aston Martin vehicles. Please refer to the website to see the complete compatibility list at [mObridge.us](http://mObridge.us)

## KIT CONTENTS

### K2 MOST25 8.1.1 Amplifier

The mObridge K2 MOST25 8.1.1 Amplifier kit contains the following items:

- / K2 MOST25 8.1.1 Amplifier
- / Separate power and ground connection for more current capability
- / MOST 'T' piece harness
- / Female 2+0 MOST connector for harness extension
- / Male 2+0 shell for harness extension
- / K2 amp patch harness
- / Mating half connector compatible with Porsche, Audi and Mercedes allowing the installer to make a specific patch harness into the oem harness.
- / Free software download from [mObridge.us](http://mObridge.us) (This is not provided in the package contents)

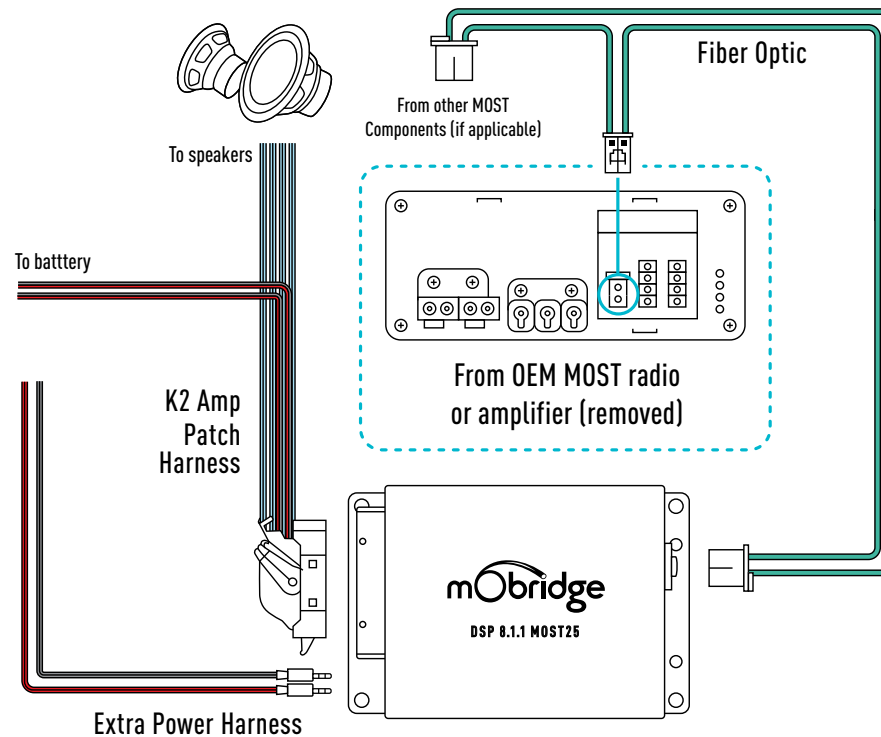


## TECHNICAL SPECIFICATIONS

HARDWARE & SOFTWARE VERSION	
Current Hardware Version	v3.0
Current Software Version	v2.1.0
INPUT	
Digital Input	MOST25 Optical
OUTPUT	
Analog Outputs	10 Channels, (1 Sub 2 High Power, 6 Normal, 1 Preout)
Total Output Power (Peak)	2400W
Total Output Power (RMS)	1200W
Signal-to-noise Ratio (Analog)	105db
Frequency Response (Analog)	20hz to 20khz
THD+N @ -1dBFS	< 0.01%
Digital-Analog Converter	32bit 48kHz
Digital Signal Processor	32bit Blackfin Processor
POWER SUPPLY	
Current Consumption (Stand-by)	< 125uA
Current Consumption (Operational Idle)	1A
Current Consumption (Peak)	100A
Operational Voltage	9-15.5V
OTHER	
Dimension	15.5cm x 23cm
Weight	1kg
Country of Origin	Australia

## HARDWARE INSTALLATION

### SYSTEM LAYOUT | K2 MOST25 8.1.1 AMPLIFIER



FOR MOST K2 INSTALLS, THE FACTORY AMPLIFIER MUST BE REMOVED. REFER TO THE MANUAL TO CHECK IF APPLICABLE

## INSTALLATION GUIDE

### WIRING HARNESS

- 01** For K2 Amplifier installations, the installation process changes depending on whether the vehicle has an amplifier, and also if it has MOST fiber optic presently installed.
- a** For vehicles with a fiber amplifier, the factory amplifier must be removed and the K2 Amplifier unit can be installed in its place. Connect the OEM fiber previously connected to the amp, directly into the K2 Amplifier unit.
- b** For vehicles without an OEM amplifier or MOST fiber, use the supplied optic extension and connect from the fiber port behind the radio to the MOST fiber port on the K2 Amplifier.
- c** For vehicles without an OEM amplifier but still equipped with MOST fiber, disconnect the fiber from the radio and connect it to the supplied 'T' piece harness. Connect one side of the 'T' piece harness to the K2 Amplifier and then connect the remaining plug back to the radio unit to add the K2 Amplifier to the MOST loop.
- \* NOTE: with options (b) and (c), you must reprogram the system to use the external amplifier for the K2 Amplifier to operate properly. Use the mObridge MOST25 OBD programmer to reprogram the system.**
- 02** Connect the wiring harness to the power sockets on the K2 Amplifier (minimum 6 gauge cable).
- 03** Connect the desired audio output(s) to the K2 Amplifier.
- a** If using analog RCA pre-out to an additional amplifier, connect the provided RCA out to the RCA input of the secondary amplifier.

## MOBRIDGE DSP GUI

mObridge DSP is a complete Digital Signal Processor (DSP) graphical user interface (GUI) for advanced in-vehicle audio tuning on the K2 Amplifier unit. It can be used to harness the full DSP capabilities of your mObridge device, and to perform firmware updates easily thanks to automated online updates.

mObridge DSP can be downloaded from our website, and is available for Windows and macOS desktop operating systems.

### Some of mObridge DSP's features include:

/ Input/output channel mapping	/ Channel muting
/ 1024-point master and channel parametric equalizer	/ Advanced channel filtering algorithms, including: <ul style="list-style-type: none"><li>• Butterworth, Bessel, Chebychev, and Linkwitz-Riley filter designs</li><li>• Low-pass, high-pass, and band-pass filters</li></ul>
/ Time alignment	/ Centre channel upmixing
/ Crossover link emulation	/ Automatic online firmware updater
/ Phase inversion	
/ Mono input channel gain and delay adjustment	

**Please note, not all features mentioned above are available to every mObridge device. For more detailed information regarding mObridge DSP, see the "mObridge DSP Manual".**

The mObridge DSP tuning interface can be used in both 'Live' and 'Offline' modes. Offline mode allows you to configure various settings with your mObridge device disconnected, and then store them for later fine-tuning in the car if desired.

We recommend that all tuning be done with a 'Live' system because this way you can hear all changes

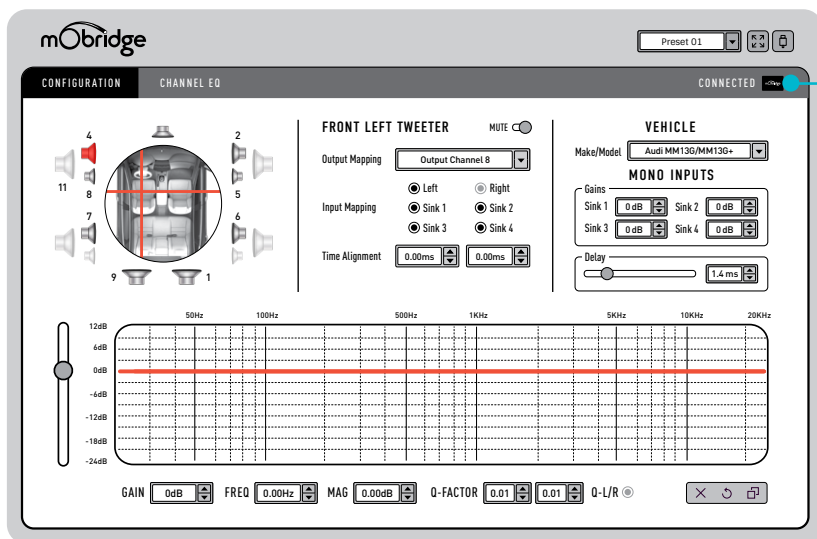
being made in real-time. Graphic EQ, crossover, and time alignment changes can all be heard as you make the changes when 'Live'.

You can connect to the K2 Amplifier via the provided USB port.

## FIRMWARE UPDATE

mObridge DSP can be used to install the latest K2 Amplifier firmware. mObridge DSP can perform firmware updates either using the automatic online updater, or you can manually download the latest firmware for an offline update at [mObridge.us](http://mObridge.us)

The mObridge K2 Amplifier unit will need to be connected in the car, and powered up for the unit to be able to be updated. Once it has been connected to mObridge DSP, the user will be presented with the following screen (figure 01).



CLICK ON  
'CONNECTED'

FIG 01 K2 MOST25 8.1.1 Amplifier is connected to the DSP GUI

Once the K2 Amplifier is connected, simply click on the 'Connected' button in the top right-hand corner. This will display the Device tab as seen on the following page (figure 02).

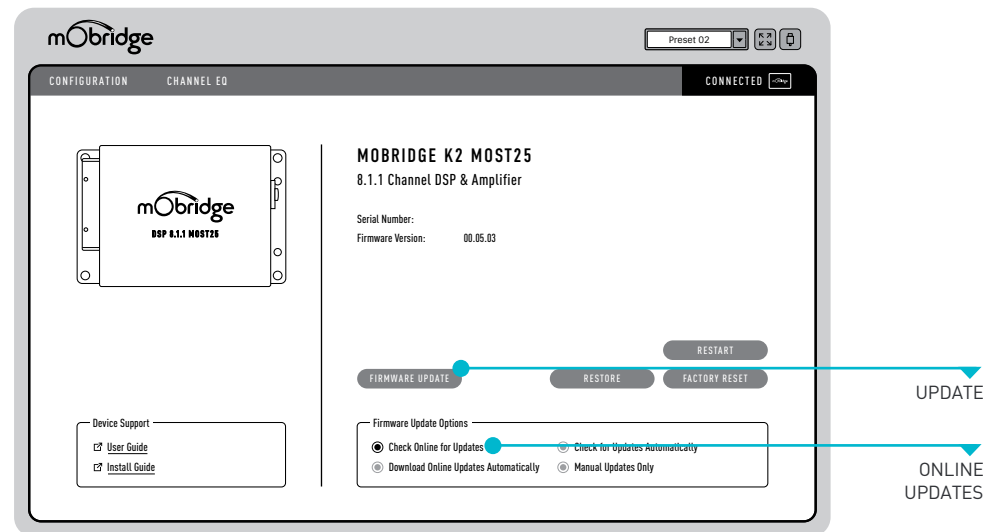


FIG 02 Update Page

If performing an online update, make sure the 'Check Online for Updates' option is ticked and then press the 'Firmware Update' button. This will automatically check for the latest software update for the connected device and begin the upgrade process.

If performing an offline update, make sure the 'Check Online for Updates' option is unticked and then press the 'Firmware Update' button.

This will open a window where you can select the new Amplifier firmware file to update to and the update procedure will begin.

Once the update has completed, the K2 Amplifier unit will restart. Sometimes it is a good idea to let the car sleep after the firmware upgrade as some MOST systems do not like ECU's resetting on the MOST bus.

## SPEAKER MAPPING

Once the K2 Amplifier unit is connected to the mObridge DSP application, you will see the below screen (figure 03).

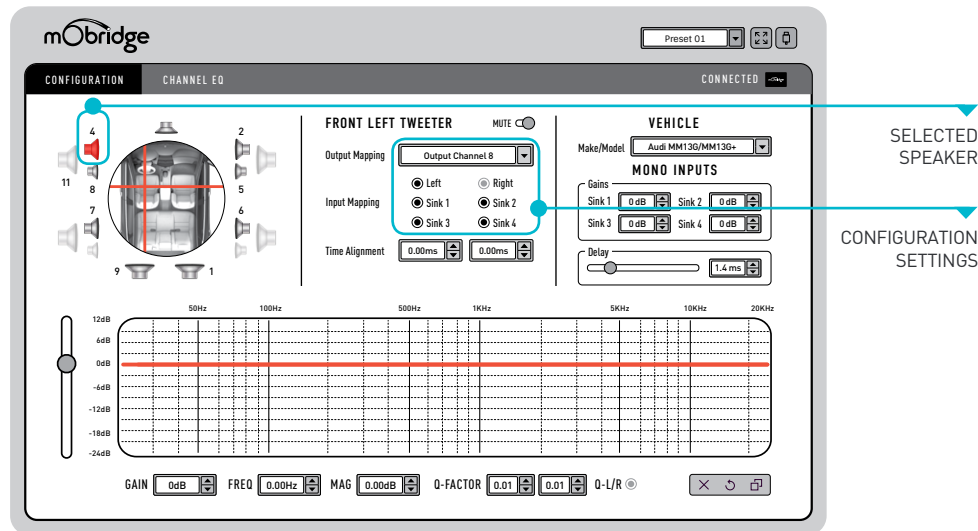


FIG 03 Configuration Page

The Configuration tab will allow you to configure the channels for the correct mapping of your particular system.

First select a speaker from the image of the vehicle in the top left corner, then select an output mapping from the drop-down menu in the middle of the screen to select the channel output you have connected

for that particular speaker. Repeat this for each speaker and its corresponding output channel.

When running a component speaker system with a passive crossover, only select one of the speakers in the cluster. It is not important which speaker is chosen, as this is only the mapping stage. Crossover settings will allow for correct settings for this type of speaker system.

Next, you will need to allocate the appropriate input mappings to each speaker. For each speaker, simply select the speaker image in the top left corner, and then click the appropriate 'Input

Mapping' options for each speaker. If multiple input mappings are selected, these sources will be combined and summed.

## MONO INPUTS

After mapping your speakers, you can then adjust the mono input gains and delay using the "Mono Inputs" panel which will be displayed on the right-hand side of the configuration tab (figure 04).

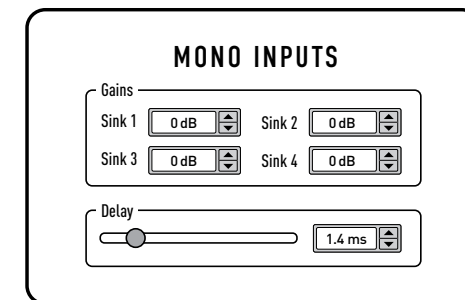


FIG 04 Mono Input adjustments



## PHONE, NAV, PDC AND CHIME GAIN ADJUSTMENTS

This can be used to independently adjust the gains of the input sinks such as phone, navigation, PDC, and chimes. Each manufacturer has different configurations for their mono inputs so please reference the table below when adjusting your phone, nav, pdc or chime gains.

VEHICLE	PHONE	NAV	PDC	CHIMES	VOICE
BMW	Sink 1	Sink 2	Sink 4	Sink 3	Sink 2 (same as Nav)
Audi	Sink 1	Sink 2	NA	NA	Sink 3
Porsche	Sink 1	Sink 2	NA	NA	Sink 3
Mercedes	Sink 1	Sink 2	NA	NA	Sink 3
Landrover	Sink 2	Sink 2 (same as Tel)	Sink 3	Sink 4	Sink 2 (same as Tel)
Jaguar	Sink 2	Sink 2 (same as Tel)	Sink 3	Sink 4	Sink 2 (same as Tel)
Aston Martin	Sink 1	Sink 2	Sink 3	Sink 4	Sink 2 (same as Nav)
Toyota	Sink 1	Sink 2	Sink 4	Sink 3	Sink 2 (same as Nav)
Mini	Sink 1	Sink 2	Sink 3	Sink 4	Sink 2 (same as Nav)

## DELAY

The delay slider can be used to fine-tune the mono input processing delays in your mObridge device. This can help alleviate echo issues in certain vehicles while using your mObridge device to play audio on phone calls. The delay will be active on all mono inputs.

## SAVING SETUPS & PRESETS

The K2 Amplifier will automatically save setups upon shutdown of the MOST system. This needs to happen 'gracefully' - meaning that the user cannot just pull power from the unit, as this will not work.

The K2 Amplifier has four different presets and these can be tuned individually. The channel mapping is consistent across all four presets. These can be selected with the drop-down menu in the top right corner as shown below (figure 05).

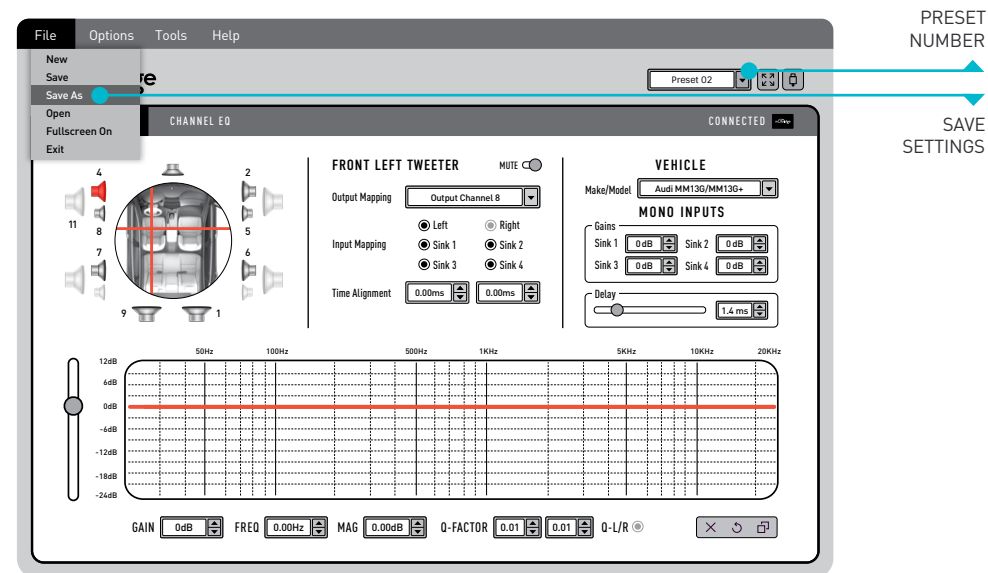


FIG 05 Saving tuned settings

You can save a backup of all of your presets by simply selecting 'File>Save As' on the top menu bar as shown in the above screen. This will save a backup (.rax file) of your setup across all four presets. This file can be used to load in saved settings later on.

It is also possible to select these presets using specific commands in the head-unit of your vehicle. This varies depending on your vehicle make, and head-unit system. Please check the support documentation on the mObridge website to find the vehicle-specific instructions.

If there are no vehicle-specific instructions for your vehicle make, the preset can generally be changed using the Logic7 Surround controls as shown in the images below (figure 06 & 07).

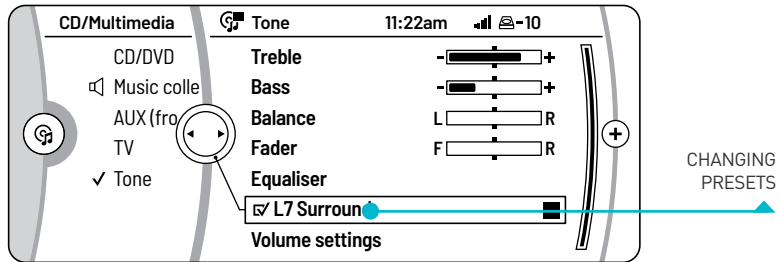


FIG 06 Using L7 Surround Mode to change presets

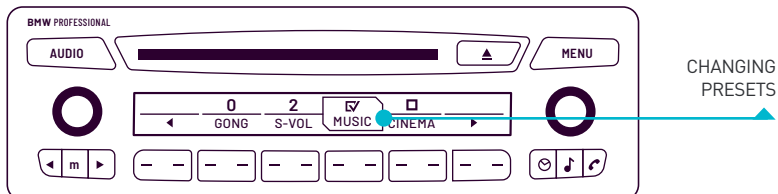


FIG 07 Using Professional Radio Surround Modes to change presets