

Installation instructions for fmGenie & S11 Soundfield

Check contents of kit, you should have the following:



a) fmGenie Transmitter

d) S11 Receiver/amplifier with two aerials and mains cable



b) Collarworn microphone



c) Hip pouch



e) fmGenie charger and 2 x AA rechargeable batteries



f) 2 pairs of speakers (ie.4!)



g) 100m reel of speaker cable ★E626★
(we know this is too much cable, but 100m reels are the cheapest form of supply)



h) 1 bag of speaker cable clips ZHCC3X5
(using a cabling staple gun is preferable if you have one)



J) Tutor courtesy card B44 FMG CC



An overview of the installation steps are:

- 1) Decide where the speakers are to be fitted.
- 2) Decide the easiest cabling run for the speakers - which may not be the shortest.
- 3) Decide where to mount the S11 Receiver/amplifier.
- 4) Install the system.
- 5) Test the system.
- 6) Demonstrate and set the volume level for the user.

Charge batteries now if possible

Rechargeable batteries require charging before use, so we suggest that you start charging the transmitter batteries now whilst the system is being fitted.

Even just an hour or so will give enough charge to test the system.

A proper charge can be given when the setting up or demonstration has finished.

A pair of AA alkaline batteries can be used (or borrowed) for testing if necessary - but do not try charging them!

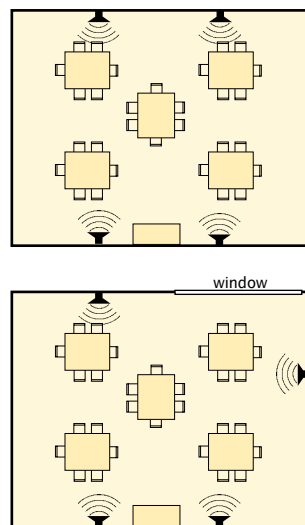


1. Deciding where to fit the speakers

Firstly please do **not** think home hi-fi and put the speakers in the corners, at waist level and point them to the centre of the room- this is the worst possible thing to do!

Placing loudspeakers for a classroom soundfield is more like deciding how best to light a room using 4 small lamps. If you think light you will not go far wrong. ie fitted above head height (2 to 2.5 metre high) each over a 1/4 of the room pointing down on the area to be covered.

The positioning of speakers is often predecided by physical objects such as windows. You have to fit 4 speakers so adapt your 'lighting' plan to give the best pattern for the students - perhaps avoiding the window, an unused end of a classroom or a teachers desk.



Speaker position allowing for a window

2. Deciding the easiest cabling run for the speakers.

Take advantage of existing features such as any wooden picture rails or perhaps notice boards (it is much easier to fit cable clips to wood than plaster). If you have a false ceiling the cable can be run above it. Sometimes using a piece of plastic mini trunking for any difficult runs is a good solution.

Speaker wiring

Speaker wiring - one cable run down each side of the classroom wiring a pair of speakers in parallel, it is important to maintain the correct polarity when connecting the cable so we suggest connecting the black trace wire to the black terminal(!) (Each speaker is 4 Ohms thus we now have 2 Ohms on each cable).

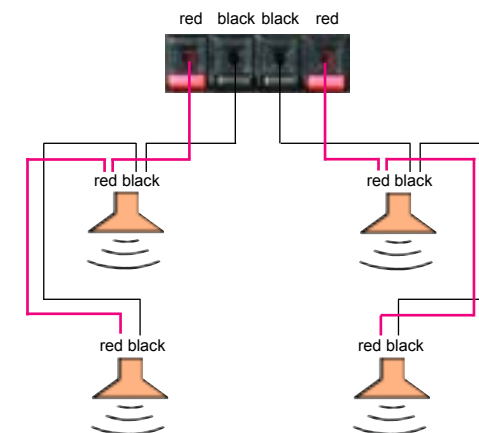
The S11 has 4 terminals - red, black, black, red. Connect the two cable runs, one to the left pair and one to the right pair, again maintaining correct polarity ie black trace wire to the black terminals.

(The terminals are in fact wired internally to connect the two cable runs in series making the load on the amplifier 4 Ohms. The actual amplifier connections are the 2nd and 4th terminal as viewed from the rear, which you would need to know if you wanted to test the amplifier with just one speaker)

The cable is white with a black stripe along one wire. The white only wire should always be connected to the red terminals and the black stripe wire always to the black terminal.

Please note: the S11 is not suitable for use with 6 speakers as it has insufficient power.

Four speaker wiring



3. Deciding where to mount the S11 Receiver/amplifier

This is usually best done by discussing the options with the school staff. Is there an existing convenient shelf, existing wooden wall cupboard or perhaps even a walk-in store?

You do not have to use the supplied bracket however the two aerials must be used fully extended in a 60° 'V' shape 'flat' to where the teacher will normally stand – away from metal racking, pipes etc. otherwise the quality of radio reception will be reduced.

The fmGenie transmitter is recharged overnight using the twin tail charger.

It should not be necessary to adjust the controls during a lesson so the S11 receiver/amplifier unit does not actually need to be beside the teacher. Mounting the unit away from little fingers is a good idea(!) and of course do not forget that you also need a 13A mains socket or switched fuse spur to power the system.



4. Installing the system

In order to connect the mains lead and plug you will need to remove the rear panel of the S11 receiver. This requires a 2mm Allen Key – NOT supplied.



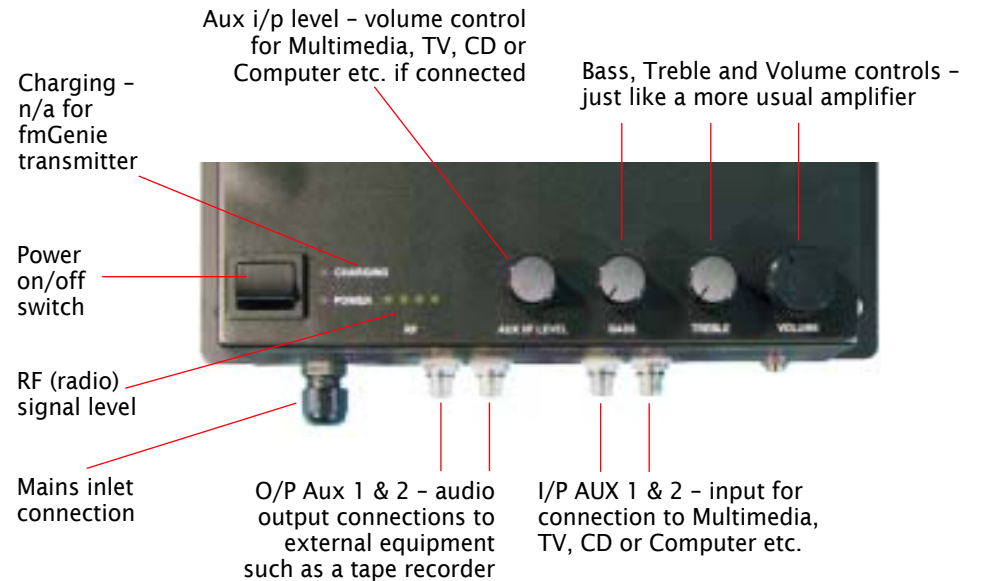
Mains inlet connection

S11 Amplifier/Receiver controls and features

The Trantec S11 really is very easy to use. Let's walk you around the features, indicators and controls on the Trantec S11 receiver/amplifier.

The S11 is a combined audio amplifier and multi-channel radio microphone receiver. As the radio receiver is a diversity type, to minimise possible drop out, there are in fact two radio receiver channels (which is why there are two aerials) and also the electronics to automatically select the channel with the best radio signal. The power supply for the S11 is an external unit.

On the front and base are:



On the top of the S11

4 speaker connections – wired internally for the connection of 2 cables

RA – (ie left position) should be selected for use with Connevens fmGenie transmitters

S10 – (ie right position) should be selected for use with/compatibility with S10 transmitters



Mute level – a variable adjustment to set the level for muting poor radio signals (ie to help eliminate any shooshing noises as the transmitter goes out of range) – if in doubt set to the mid position.

The DATA connection is a factory only set up & test facility

	Bank 1	fmGenie & CRM-220	Bank 2	fmGenie & CRM-220
0	173.350	38	174.150	54
1	173.400	39	174.200	55
2	173.450	40	174.250	56
3	173.500	41	174.300	57
4	173.550	42	174.350	58
5	173.600	43	174.400	59
6	173.650	44	174.450	60
7	173.700	45	174.500	61
8	173.750	46	174.550	62
9	173.800	47	174.600	63
A	173.850	48	174.650	64
B	173.900	49	174.700	65
C	173.950	50	174.750	66
D	174.000	51	174.800	67
E	174.050	52	174.850	68
F	174.100	53	174.900	69

The receiver has a 32 multichannel facility. The 32 channels are actually in 2 banks of 16. So the Channel select makes the 1-16 choice and the bank 1 or 2 switch selects which bank of 16.

5. Setting up and testing the system

fmGenie transmitter information

General instructions for using the fmGenie transmitter are included in the Tutor courtesy card. When testing a new system you need to make sure the transmitter is set on the same frequency channel as the S11 and that you have enough battery power.

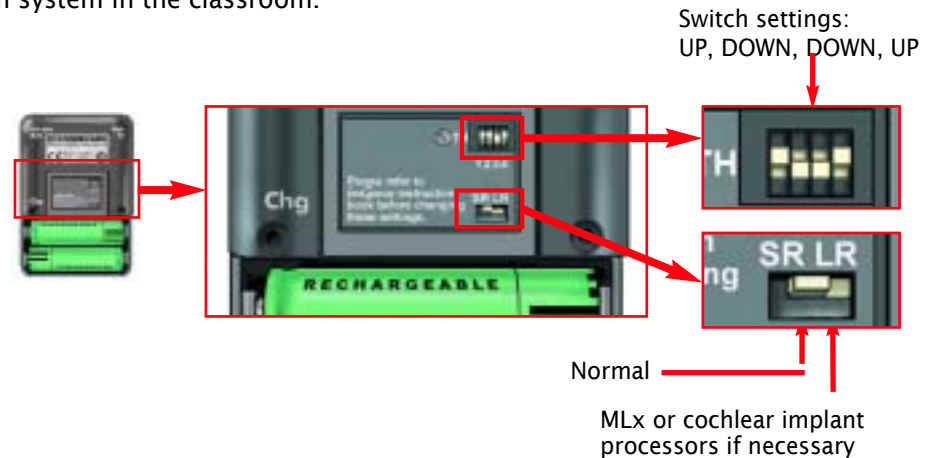
Tx underflash switch settings

The display on the transmitter shows which channel is selected.



Tx rear battery compartment switch settings

Set to LR if MLx or cochlear implant processors are being used with a personal fm system in the classroom.



For further information on the fmGenie transmitter, please refer to the fmGenie Information & Instruction Booklet.

Choosing the channel

Choose a channel on the S11 receiver/amplifier and then use the chart on page 6 to select the corresponding fmGenie channel.

For example, if the S11 is set to Bank 1, channel 0 – the fmGenie should be set to channel 38.

All radio receiving apparatus can suffer from interference. When choosing channels for each room, try to ensure that there is always a separation of at least two channels between adjacent rooms



Avoiding interference

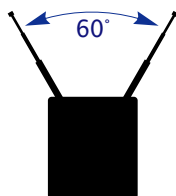
Set the 'Mute level' control on the to panel of the S11 fully anti-clockwise using the fmGenie tool or a small screwdriver.

With the receiver powered up, but leaving the transmitter turned OFF, increase the volume to check whether there is any local interference on the channel you have selected. If not, reduce the volume to about half-way and proceed to checking the transmitter. If there is interference, change the channel until you find one that is clear. Keep in mind the minimum two channel separation between adjacent rooms. If you are unable to find a clear channel, then find the channel with the least interference and adjust the 'Mute Level' clockwise until the interference is muted.



Setting the S11 receiver/amplifier aerials

Make sure that the two aerials on the top of the wall mounted S11 receiver are fully extended and angled upwards at about 60 degrees to each other, but in line with the wall. They should be left permanently in these positions, pinned to the wall with cable clips if necessary. The aerials are not designed for daily movement.



Checking the operation of the S11 amplifier and speaker system

The easiest way to check the system is to connect a portable radio, cassette or CD player into one of the auxiliary inputs (numbered 1 to 4). Adjust the appropriate volume to a suitable level and walk around the room, checking for a reasonably constant sound level and lack of distortion or buzzing from any particular speaker. Buzzing or distortion from a particular speaker may indicate a faulty speaker or loose mount.



Check the transmitter

Plug the microphone into the fmGenie transmitter and switch on by holding the power button down until the display appears. Check that the four green RF lights on the S11 receiver light up. Hold the microphone at about 100mm from the mouth and talk whilst increasing the volume on the S11 until you can hear it clearly without causing feedback whistling.

Make sure that the transmitter aerial (the microphone cable) is substantially vertical and fully extended by wearing the transmitter in the hip pouch supplied or simply clipping it to your belt. Walk around the room whilst talking. There should be no important places where the sound cuts out. Walk around again whilst staying silent. There should be no important places where the sound goes very noisy. If either of these instances occurs, check for the presence of large metallic objects in the vicinity. Consider moving them, adjusting the position of one or both aerials on the S11, re-siting the S11 or alternatively, increase the fmGenie transmitter power setting to 'LR'.



Signal indicator

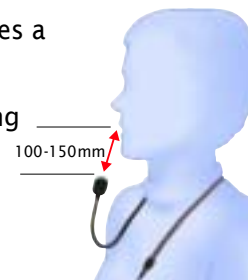
6. Demonstrate and set the volume level for the user

It is important that the soundfield is set up properly. We have found that most users tend to set the system too loud. This is unnecessary and undesirable. The golden rule is "if the user of the transmitter can hear themselves clearly from the speakers, then the volume is too loud". It is difficult for the person talking to judge the level of their own amplified voice.

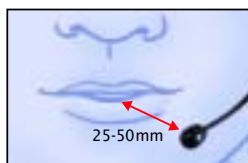
There are two ways to set up a soundfield properly; one uses a sound level meter and the other relies on the subjective judgement of another person. Both methods require two people with the class teacher preferably being the one doing the talking.

Setting the correct volume level

- Wear the collarworn or headset microphone as shown.
- Walk to the point in the room furthest away from the S11 and invite a colleague to join you.
- Mute the transmitter by pressing the STAR button momentarily.
- Talk in a normal voice to your colleague while they stand about 1 metre away from you.
- Ask your colleague to remember the average sound level reading by either....
 - a) Using a sound level meter *or*
 - b) Remembering the sound level by ear
and then get them to walk over to the S11 receiver.
- Un-mute the transmitter by pressing the STAR button again.
- Ask your colleague to increase the volume control on the S11 receiver, whilst you continue to talk in the same normal voice as before, until either....
 - a) the sound level shown by the meter at where they are standing is the same average value as when he/she was one metre in front of you.
 - b) until he/she judges the sound level at where they are standing to be about the same as when he/she was one metre in front of you



Collarworn microphones

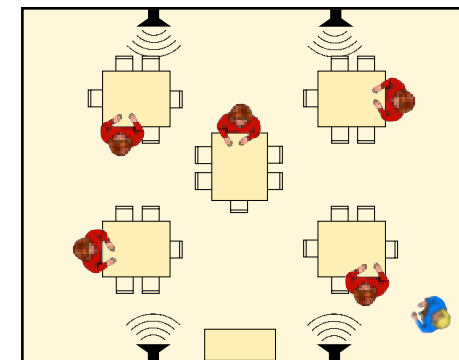


Head/earworn microphones

- He/she may now adjust the tone controls if necessary to optimise vocal clarity.
- Now ask your colleague to walk around the room listening to make sure that your voice is clear all around the room.

Job done! Don't be tempted to increase the volume much further as teachers tend to raise their voices in an active classroom situation!

Once the installation has been carried out, please do not underestimate the importance of ensuring that the teacher has the opportunity to experience listening to another person using the system. There are two reasons for this: firstly so that they become impressed at the natural sound and secondly it is hard for anyone to listen objectively to their own voice. It is also an excellent opportunity to 'play' at using the system with a colleague, allowing the teacher to gain confidence with their own 'performance'.



Leaving the fmGenie & S11 in a ready state for the user

If the transmitter batteries were not fully charged before testing and setting up the system, use the fmGenie plug in charger to charge them now.

fmGenie Transmitter Battery Charging:

First time use of rechargeable batteries

New rechargeable batteries require charging before use. See Fast Track guide on page 5.

- 1 To fit the batteries, slide open the battery cover and insert batteries.
- 2 Do NOT turn on the fmGenie.
- 3 Plug in the twin tail charger, rolling battery bars should be visible on the right of the status display.
- 4 The equipment will be given an initial 4 hour charge - enough charge for a few days' use.
- 5 When the display goes blank the fmGenie is ready for use.

This initial charge will give at least 16 hours use, the full battery capacity will be available after the first full charge.

Normal charging routine.

Check the status of the battery bars on the fmGenie transmitter before switching it off.

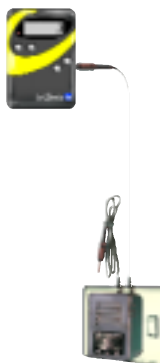
If the unit shows two bars or less, put it on charge overnight. (Whilst an fmGenie will run for about 40 hours on a single charge, there is no need to risk the inconvenience of running out of power).

To charge the batteries simply plug the charger into the 'chg' socket on the side of the fmGenie.

Once connected, your fmGenie will safely control the charge sequence. The recharge time is approximately 10 hours for a full charge and 4 hours for a top up charge. The fmGenie can be charged when powered on or off and may be used whilst charging if wished.

It is not a problem if the recharge period is interrupted by a power failure as charging will continue when power is restored.

If charging is not required then the fmGenie will show "no" with a flashing alert indicator and battery symbol - nothing will be happening but unplug the charger as soon as is convenient.



You may give the fmGenie a partial charge. However, when you interrupt the normal charge sequence you will need to clear the display with the star button. The display will then be over optimistic about the actual battery charge state.

Appendix 4, page 92 of the fmGenie User Guide, explains fmGenie error messages.

WARNING If charging the batteries in situ, only use the correct fmGenie charger to maintain safe operation. Other types of charger may plug in but will damage your fmGenie.

A helpful hint: on some very rare occasions, if the batteries are totally flat, the fmGenie will not recognise that batteries are fitted and will not charge. If you have another fmGenie which is charging simply swap one battery between the charging and non charging unit. Alternatively, if you have a conventional charger, give the batteries a 5 minute charge in that.

Cautions:

The unit will become warm during normal use.

The front panel may become hot when the system is producing continuous loud sound.

Do not block ventilation holes

Do not allow the tip of the charger lead to touch any metallic object. Store the charger plug safely when not in use.

The plug in charger is designed only to charge fmGenie units containing Ni-MH batteries of 1300mAh capacity. Do not attempt to charge other devices, battery types or use for other purposes.

Do not attempt to charge units containing non-rechargeable batteries.

Do not expose the fmGenie or the S11 to rain or moisture.

The S11 receiver/amplifier unit **MUST** be earthed.

For continued protection, replace fuses only with the same type and rating.

Hazardous voltages exist inside the S11 unit.

No user serviceable parts inside.

Refer servicing to authorised representatives of Connevens Limited.

Remove the mains plug from the wall socket or switch remove fuse from spur connection before undertaking any servicing operations.

Equipment supplied by:

Connevens Limited

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**www.connevans.com and
www.DeafEquipment.co.uk**

www.connevans.com
– the information website for
Connevans including information
sheets and user instructions for
soundfield systems

www.DeafEquipment.co.uk
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