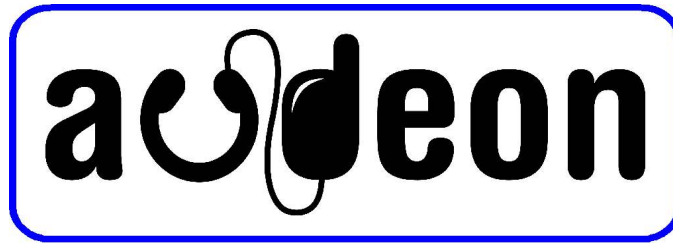


Chargers

Installation, Commissioning and Maintenance



Chargers and Docking Stations

Installation, Commissioning and Maintenance

This note applies to the CS range of power supplies and chargers and the DS range of docking stations. These notes describe the installation of the system into a fitness studio as this is the most popular application.

Introduction

Power Supply and Charger

There are 5 versions of the CS power supply and charger

CS 1 is the original unit and will accommodate input voltages between 2.5v and 10v DC. This charger is an up and down converter which will provide an output of 5.35 volts DC. The charger is designed to be used with mains powered equipment where the input voltage to the charger is below 6v DC. It will power the receiver and trickle charge the battery.

CS 2 was developed to meet the requirement of higher input voltage and greater efficiency. It has a linear regulator which takes less power in the off load condition. The open circuit output voltage is 5.5v. It will power the receiver and charge the battery when the receiver is not in use. Charge time is 8 hours for a full charge.

CS 3 is a further development of the CS 2 and is designed to fast charge receivers from the self powered equipment. The CS 3 will provide enough power to enable the receiver to remain on for twice the charge time. The CS 3 should not be used with mains powered equipment as this could result in over charging the receiver battery. The open circuit output voltage is 6.25v.

CS 4 is the same as the CS 2 but with a 2 metre long lead

CS 5 is a mounting for receivers which are not charged or powered by the CSAFE outlet on the equipment. When using a CS 5 adapter the receivers are charged using one of the docking stations.

CS2B and **CS4 B** are versions of the CS2 and CS4 which are fitted with a DC connector for use with a plug top power supply. The DC connector is more robust than the RJ45 connector and can be fastened to the rear of the machine control panel.

CS2B-PSU is a plug top power supply with a fitted DC connector which is suitable for the CS2b and CS4b chargers. Two versions are available with either a UK style plug or a European style plug

Docking stations

A range of docking stations is available for charging receivers which are not attached to a machine. These docking stations which are wall mounting are available in 6, 12, 18 and 24 ways. The receivers can be left in the docking station until they are required for use as the charging circuit has over charging protection.

Installation of the system

Initial testing

After the successful installation of the transmitter (see appropriate instructions for either the MCTX or the SCTX) test the reception with an RX6 receiver. All the receivers are despatched from the factory fully charged, so a walkabout test can be performed throughout the venue before they are attached to a machine. Check for range and dead spots or weak signal strength. Any problems at this stage should be addressed and the transmitter aerial re-sited if required.

Fastening the Charger to a machine

Select an appropriate charger & power supply for the machine (CS 2 for mains power, CS 3 for self powered, CS 5 for no power, etc) and fasten it to the machine in a position where the receiver is easily accessible for the user and it is out of the way of moving parts. The charger should be attached using the two 7.6mm wide cable ties (supplied) which are fed through the appropriate holes in the power supply mounting plate. The charger can be attached at right angles or in line with the bar to which you are fixing it. Choose holes in the bracket which give the strongest pull and the closest fixing. The mounting plate is designed so that it can be fastened to different sizes of bar and this can be seen by the stepped



shape of the moulding. Check for the appropriate mounting position and then select the correct holes for the cable tie. The cable tie should be a snug fit round the equipment bar so that the largest surface area of the tie is in contact with the bar to reduce slippage. For bars with a polished surface where friction is poor a thin layer of neoprene rubber (one non slip mat is supplied for each charger) can be used to increase the friction. Farnell sell a suitable material “multigrip anti-slip mat” (their part no 152 - 150B) which can be cut to size (75 mm x 55 mm). One roll will provide approximately 50 pieces. Note that the users will play with the receiver during exercise so make sure it is firmly attached to the machine. Extra cable ties and non slip mats are available from the factory.

Connecting the power lead to the CSAFE outlet

The power cable should be connected to the 8 pin RJ45 socket on the machine and then fixed down so that it cannot interfere with the user or the moving parts of the machine. Check that the charger & power supply is working by measuring the voltage on the charger terminal screws. You should also check that the charger can supply the required current to the receiver by connecting a dummy load across the terminals. A 4 watt resistor, value 100 ohms is suitable (approx 60 mA). Experience has shown that not all machines have the CSAFE enabled and failure to check that the supply is working will mean that the receiver will stop working when the initial charge in the batteries has been used up. When connecting the CS 3 to a self powered machine you will have to operate the machine whilst measuring the voltage and the current, an assistant will probably be required for this test. Some equipment may have a CSAFE socket which has not been enabled or no CSAFE outlet, this will require an adapter from the equipment manufacturer.

Please note that digital voltmeters have a high input impedance and may provide an incorrect reading if no load is connected to the charger. This can mislead you into thinking the charger is working when in fact it is not.

Installing the receivers

The RX 6 receiver clips into the charger & power supply cradle. The belt clip will locate inside the power supply and can only be released using the special release key supplied. Following the installation of the receiver into the charger & power supply cradle check the operation of the receiver. Signals should be received on all channels. Unplug the headphones and check that the receiver goes into standby mode after approximately 2 minutes, when the sound is muted and the display will turn off. The receiver will operate and return to the state it was in before the headphone lead was removed as soon as the headphones are re connected or the channel select button is pressed once. The receiver will switch off after 40 minutes to save the battery in case it has been left on with the headphones plugged in. To restore the receiver press the channel select switch once and it will return to the state it was in before the 40 minute timer operated.

The installation procedure should be repeated for all of the receivers.

Installing the Docking stations

The docking stations are designed to be wall mounted and fed with power from a standard mains power outlet. A suitable 13 A plug top is fitted for UK use and a standard IEC lead with an appropriate plug is supplied for use in Europe.

Power on is indicated by the red LED. Each charging position has a green LED to indicate that a receiver is in that position and is charging. Placing the receiver into a vacant charging position will illuminate the green LED and shows that it is being charged. A full charge will take approximately 8 hours from a full discharged state. The docking station is designed so that the batteries will not be overcharged if left for long periods of time.

Release Keys



Leave a suitable number of release keys for the operator to remove the receivers from the power supply if required. Caution; If you leave too many release keys the staff will assume that the receivers are to be removed and changed round.

User maintenance

The venue staff should be instructed on how to operate the receivers and chargers and how to do simple maintenance. The receivers should be cleaned after use with a damp cloth to remove any sweat and to stop a build up of bacteria. Occasionally the receivers should be removed from their power supplies and both should then be cleaned with a damp cloth and dried with a dry cloth, to prevent the build up of bacteria and germs. The receivers should be checked once a week for flat batteries or a malfunction.

The batteries will not require charging in normal operation (unless the installation uses a docking station) and should not need to be moved around the gym. In the case where some receivers receive heavy usage the operator may wish to rotate them to even out the wear over a long period of time. If the receiver has a flat battery it will work once the machine is operated (1 to 2 second delay). If it fails to start then the most likely fault is that the power is not being supplied from the machine, check that power is available from the CSAFE outlet.

Spare parts

Spare headphone leads, knobs and release keys are available from the manufacturer, we suggest that you leave a price list with the operator.

Service

In the UK Audeon has a dedicated service line (0113 252 5582) to coordinate maintenance and repairs of Audeon equipment. The operator should be made aware of the benefits of expert advice and support. The telephone line is staffed by experienced engineers who are familiar with the Audeon range of products. They can provide advice, on line help and will arrange for maintenance from you, the dealer if required. A poster is provided with the help line telephone number for display on the staff notice board.

User Instruction

Before leaving the installation ensure that the staff are;

- familiar with the system.
- know about it's features and benefits.
- they can demonstrate it to the users.
- they know how to maintain it and keep it clean.
- they can change the headphone lead.
- they know how to obtain service for the system.

