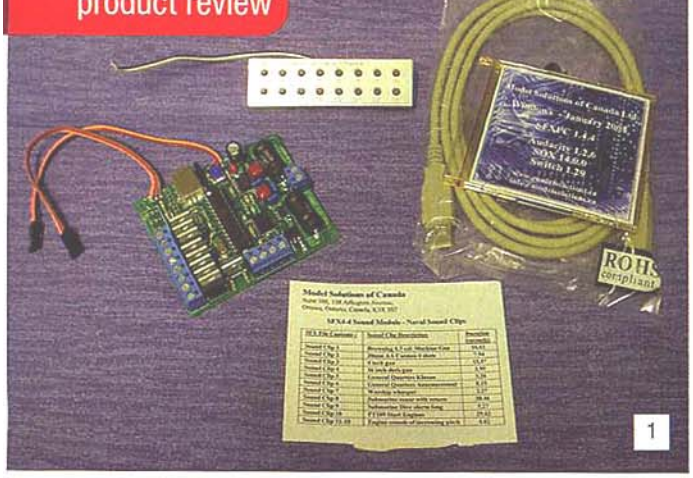
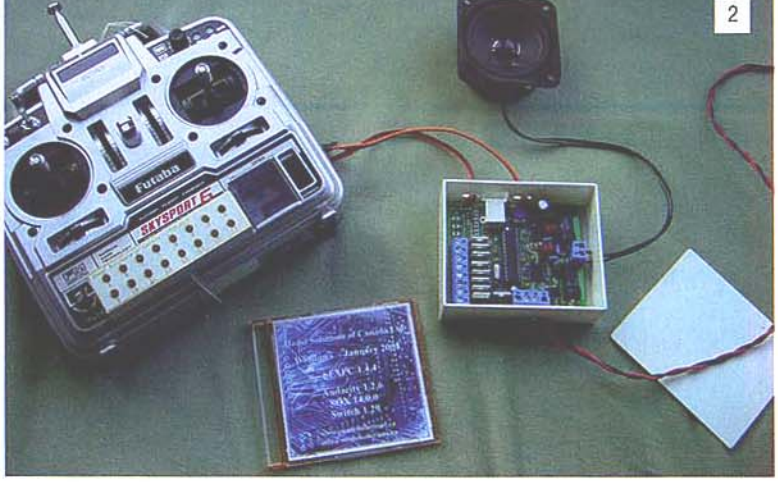


1



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Model Solutions Sound Module

Photo 1. The SFX4-4 Premium Programmable sound unit – what you get for your Canadian dollars.

Photo 2. The keypad attached to the front of my transmitter and the receiving module inside a custom made styrene box.

TERRY SMALL reviews the SFX4-4 Premium Programmable sound unit

Introduction

Model Solutions of Canada is a small family run business created specifically to market and sell their own range of electronic modules for the radio control market. David Harrison is the main driving force behind Model Solutions. After researching the market, he was very disappointed with what he found, so with his background in electronics he began to design his own sound unit. The prime objective was to have a module that could be flexible, programmable via a standard home computer, future proof and most importantly, accurate in sound reproduction, with the added bonus of a few additional included functions. Hence the SFX4 range of modules was introduced, with many sold via the internet and the product range is still expanding.

Overview

The SFX4-4 Premium Sound Effects Module, **Photo 1**, is designed to be programmed via a computer USB port using menu driven software. It has the ability to store multiple digital sound clips with up to a total of six minutes play back time under the command of your own radio control system. The 12 watt power amplifier and loudspeaker gives loud and clear sound reproduction. Applications within the modelling world are almost endless, as the user can import sound samples from a range of sites on the internet including the Model Solutions (MS) website, or sound clips can be pre-installed on request at time of purchase. The power source needs to be a 6-15v dc battery. It supports up to 10 sound clips and interfaces directly to a radio control receiver through its built in 16 channel switch decoder, control of which is carried out by fitting your transmitter with the supplied 16 button keypad. It also supports up to four auxiliary switched outputs that can operate lights, winch motors, pumps etc. The SFX4 module does not come in any form of a protective box, just an anti-static bag as protection during transit, so be careful when unpacking it. The module has two servo leads attached, one of which is for the throttle or speed controller feedback and the second would connect to the spare receiver channel for the 16 press button functions. No loudspeaker is supplied, but one can be purchased separately. Ideally this should be of the paper cone variety, due to its better sound capabilities and of a nominal 8 ohms impedance. The software supplied is on a CD Rom containing windows based applications.

The heart of the module is built around an 8 bit microcontroller, which has an inbuilt flash memory - this is to store the digitized sound samples. The output amplifier has a volume control which can deliver a maximum output power of 12 watts at 14.5 volts input supply. The total sound storage space can be up to 350 seconds playback time and this can be programmed to run continuously.

Programming

Installing the software takes a few minutes with no problems encountered, but some may find that their own computer's installed firewalls need adjustment to accept the installation process. Once installed, you just follow the instructions to connect the unit to your computer and the module to the power supply and speaker.

A display should appear on your computer screen, which is actually a large control panel divided into five separate control functions which are actually self explanatory and very simple to use. The software manual describes each area in clear detail and how to use it.

In use...

The first test I carried out, was to play back each of the supplied sound samples via my computer through the sound module. The quality was superb with plenty of volume control and no background distortion.

Downloading and importing your own sounds is carried out using the software provided. These of course have to be digital recordings and by searching the web sound clips can be found. Some are free, others have to be paid for and a list of good sites is included within the software manual. Model Solutions own excellent website does have many to choose from and should be contacted to find out how to obtain them. I tested the supplied range plus nine others including seagulls, gun fire, aircraft, tug boat engines, fog horns, tow winches in action and train sounds, and could not fault the unit's sound reproduction and ease of use. The throttle control which in turn controls the engine sound is fully proportional and in operation was very responsive and accurate. It should be noted that although ideal for single crew boats, if the boat has twin engines then for the best in sound accuracy and reproduction, two independent modules should be fitted.

16 button switch pad transmitter installation

Following the instructions, getting the transmitter to control and manage the sound unit was quite straightforward. This is covered in a step by step easy to understand fashion within the instructions. Some soldering knowledge regarding wires is required and there are some modifications to the transmitter to be carried out. The unit makes use of just one proportional transmitter control function. The keypad has to be stuck onto the transmitter case, **Photo 2**, with the use of the supplied double sided tape. Once installed and the setup programme followed, assigning each function switch to control a simple on/off function for small crane motors, lights or other external module can be actuated. Another function that can be configured is the lamp flasher which works the Lamp One and Lamp Two outputs in synchronisation with any sound clip. For example: Fit a small wheat bulb just inside the end of your gun barrel and fire the gun. You will then have the sound of the gun firing plus the muzzle flash.

Conclusion

Overall, in operation it performed very well, although there did appear to be a slight delay between pressing the button and the switching event happening. This is to be expected, as I have found the same when using other manufacturer's switch decoders, the reason being that one receiver's output is now being broken down into 16 individual slots.

Model Solutions of Canada has come up with a product that is flexible and versatile. It can be used in a very wide range of modelling applications. It is rather more than just a 'plug in and off you go' type of accessory and the use of a modern Windows based computer is essential. It does at first take sometime to get your head around all the controls and settings, but once understood it becomes easy. Installing the keypad to your chosen transmitter if required is a simple job, as long as you are happy to modify your transmitter wiring. If using a Robbe F14 r/c set, another slight modification will need to be made. Speaker choice and position is an all important issue to achieve good sound reproduction. Sound tubes in the form of an old cut down 'Pringles' container over the speaker can enhance the sounds and more importantly the sound has to be able to exit the model. Suitable speakers can be purchased at Maplins Electronic Stores at a reasonable price. The price for this SFX4 premium module is $169 (Canadian Dollars) + p/p which once converted to pounds is a very attractive price for all that it can do. There are other lower priced versions available without the keypad option. Model Solutions pride themselves on complete support and backup regardless of where you are in the world. During 2008, Model Solutions will be launching an additional range of new of easy to use sound modules, so check the Model Solutions website and get the very latest updates as to what's new and they can be found at www.modelsolutions.ca/index.htm or email info@modelsolutions.ca.

(At this time (late July 2008) there is no UK distributor, but that may change. Readers should also bear in mind that altering the wiring of a transmitter will invalidate the guarantee, but there is no doubt that this is a useful accessory for those so inclined - Editor)