ScareMaster

OPERATING MANUAL
Firmware Version 1.21
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Check your Version
See Page 5

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READ THIS FIRST!

The options and features on the ScareMaster are constantly updated to add new features and support new products. If you see features or options in this manual that your ScareMaster doesn't have, your ScareMaster most likely needs to be updated. The ScareMaster version this manual was written to reflect is shown on the front page. See *Updating your ScareMaster* for more information on determining what version your ScareMaster is at, as well as how to download and install the free firmware updates.

If you purchased this ScareMaster to make a quick change to a prop you bought from another vendor, you might want to skip ahead to our Walk-Throughs. We have a few examples of how to quickly connect to an existing prop and make some changes.

What Is the ScareMaster

The ScareMaster is our solution to easy real-time programming. If you've ever used our PicoBoos, you know programming 2 outputs at a time can be easy. Once you start trying to animate 4, 8, or even 16 outputs, things start getting complicated fast. Not only might you run out of fingers, but trying to program all the outputs at the same time, in perfect sync with your sound, is extremely difficult.

Our goal was to come up with a product that would make programming any number of outputs just as easy as it is to program two. Other manufacturers have resorted to using cryptic interfaces, forcing you to program only one output at a time, and to decide on your show length before you've even started animating. Others force you to drag a laptop around with you and use complicated software, or even program your animation in a language meant for computer programmers, not haunters. We've used these in our time, these are the reasons we started Fright Ideas.

The ScareMaster is the ultimate animation programmer. It allows you to connect to any BooBox and create an entire show from scratch, or just make a few small changes to the animation inside. You can program all the outputs at once, or just a few at a time. It automatically saves backups of your work incase you forget to save, or need to swap out a controller. And you can do all this and be onto the next scare before the other guy's computer has even booted up.

Prop Manufacturers

The ScareMaster was also designed with prop manufacturers in mind. Once you've animated a particular prop, the animation and sound can be saved on the ScareMaster so the next time it's produced you just have to upload it. If you've already shipped a prop to a customer and they need something changed, you can make the changes on your ScareMaster and just email them the file.

Getting to Know the ScareMaster
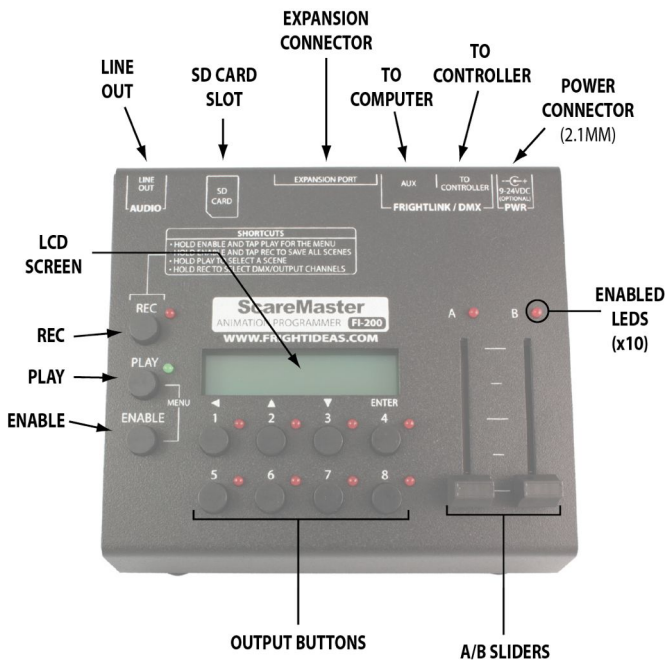
CONNECTIONS AND CONTROLS	
Line Out	Line-level output of the ScareMaster's MP3 decoder. This is used mostly to upload sounds into controllers with analog sound chips, like the BooBox 4.
SD Card Slot	Socket for the SD card which holds the sound and animation for your shows.
Expansion Connector	Future use.
To Computer	Future use.
To Controller	FrightLink Controller port. Your BooBox connects here. Any standard CAT5 cable can be used. This cable will also allow the ScareMaster to share the BooBox's power supply so there's no need to connect a power supply to the ScareMaster.
Power Connector	9-24 volt DC power connector. This is generally not used as the ScareMaster borrows power from the BooBox through the FrightLink cable.
Enabled LEDs	There is one of these LEDs for each output. If it's on, that output will record animation during recording. If it's off, the output will playback animation.
A/B Sliders	Used for DMX Lighting control as well as some menu navigation.
Output Buttons	These will control the outputs on your BooBox. Buttons 1-4 are also used to navigate the LCD Menu.
Enable	Hold this and tap the output buttons to enable/disable recording on that output. If the light is on, that output will record, if it's off it will playback.
Play	Play Button. Tap to play, hold to select a different scene.
Rec	Record Button. Tap to record, hold to assign DMX channels.
LCD Screen	2 x 16 Character LCD

Updating the ScareMaster

At the heart of the ScareMaster is its firmware. We are continuously updating this firmware with new features, and fixing any bugs our users may find. These updates are available free from our website, and they're easy to install. Please check our website occasionally to see if there's an update available for your ScareMaster.

Determining the Current Version of your Firmware

When you first power up the ScareMaster, you'll see a message like the one below on the LCD. The number in the bottom left corner is the version number. In this example the version number is 1.20.

```
┌─────────────────────────┐
│     ScareMaster         │
│  v1.20    SN:2041       │
└─────────────────────────┘
```
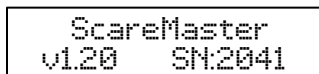
Checking for a New Version Online

Navigate to http://www.frightideas.com/support/ in your browser. In the top box you'll see a Combo Update with a table listing the current ScareMaster version (model FI-200). If the version on the website is higher than yours, we recommend updating. It's also a good idea to read the Version History to see what's changed.

Updating Your Firmware

1. Download the Combo Update listed on the web page above.
2. Open the .zip file, inside you should see a bunch of folders starting with "FI-".
3. Insert the ScareMaster's SD card into your computer's SD card reader. Copy all the folders, **except FI-SHOWS**, from the .zip file to the ScareMaster's SD Card. (FI-SHOWS contains all your saved shows and sounds. If you overwrite yours by mistake you will lose all your shows. If you want to erase all your shows and really start from scratch then you can copy this folder too.)
4. Eject the card and put it back in your ScareMaster. Next time you power up it will automatically update the firmware

Connecting to a BooBox

To connect to a BooBox, just connect the FrightLink cable from the BooBox to the ScareMaster's *To Controller* port. The ScareMaster will be powered through the FrightLink cable, there is no need to connect a separate power supply to the ScareMaster.
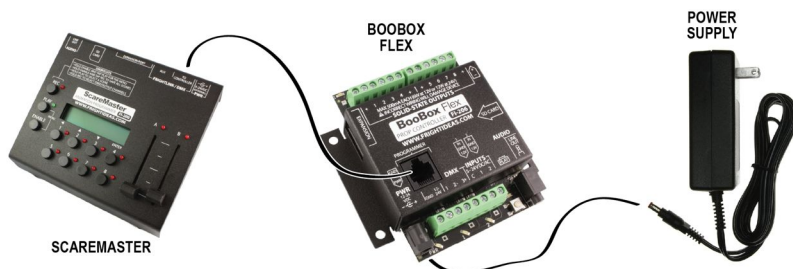
When the ScareMaster power's up it goes through the following sequence:

1. **Power Up** – The ScareMaster boots up and displays its current firmware version and serial number.

2. **BooBox Detect** – It scans the FrightLink network for a BooBox. This shouldn't take more than a few seconds, if it does see *Stuck at Detecting BooBox*.

3. **BooBox Detected** – Once the ScareMaster successfully connects to the BooBox it will display its model and version number, internal memory size, and DMX address. If the BooBox is reading its animation from an SD card, the memory size will indicate "SD". At this point the ScareMaster may prompt you to update the BooBox if its firmware is out of date, see *Updating a BooBox's Firmware* for more information.

4. **Download** – The ScareMaster will then download the BooBox's settings and animation so that it can be edited on the ScareMaster in real-time. This can take from a few seconds up to a maximum of about 30 depending on the size of the scenes. If it seems to sit forever on a particular scene see *Stuck at Downloading*.

5. **Idle Screen** – After the download completes, you will be presented with the Idle screen similar to the one below. You are now in full control of the BooBox's outputs, and ready to start recording or playing. Skip ahead to *Understanding the Idle Screen* for a complete description.

```
SHOW1       Idle
In1-0       0:07
```

Stuck at Detecting BooBox
If your ScareMaster just sits there saying "Detecting BooBox", check your connections. This screen should only be up for a few seconds, otherwise there's a problem. If you are using a BooBox 8 or FlexMax, your controller may require an SD card to operate, make sure it's inserted. Pressing 2 to Skip will abort the detection process and enter DMX Master Mode. You only need to do that if you are controlling DMX without a BooBox, or if you need access to the ScareMaster's menu.

Stuck at Downloading
If your ScareMaster seems to be taking forever to download the scenes in your BooBox, the memory in the BooBox might be corrupted. This usually only happens if its memory was overrun by uploading too much sound, or if an upload was interrupted. Disconnect the ScareMaster and reconnect while holding the 1 button, keep the button held until you see the Idle screen. This will force the ScareMaster to skip the download step, allowing you to access the menu. From there, enter the menu, go to BooBox Setup, then Factory Reset. That will clear the BooBox's memory so you can start fresh.

Connecting to the Original BooBox
Before connecting the ScareMaster, you must select "Record" and then the scene you want to edit on the BooBox. Only once the BooBox's LCD says "Plug in RTP" can the ScareMaster be connected.

Updating a BooBox's Firmware
BooBox's have firmware inside them too. And just like the ScareMaster, we update the firmware regularly to add new features and fix any bugs. Most of these firmware updates are optional, but occasionally an update to your ScareMaster might require an update to your BooBox as well. In these situations your ScareMaster will tell you to insert its SD card into the BooBox to update it.

Downloading BooBox Updates
When you download a ScareMaster Combo Update from our website, you are not only downloading an update for your ScareMaster, but also the latest firmware updates for all our controllers. This is why the ScareMaster prompts you to insert its card into the BooBox. The BooBox will then read the new update from the SD card, updating its firmware, after which the card can be removed.

If your BooBox reads its animation and sound from an SD card, it can also be updated by downloading the most recent version of its SD card from our website. It doesn't matter which SD card it reads the update from, ScareMaster or BooBox, its all the same. But if you notice the PLAY light starts blinking for a while after you had to download the BooBox's files to an SD card because a card was lost or you wanted to start over, that's what's happening.

Updating a BooBox with the ScareMaster's SD Card

1. Insert the ScareMaster's SD card into the BooBox. The PLAY light should start blinking as the BooBox updates its firmware. (On some older products such as a BooBox 8, the output LEDs will fill up 1 thru 8.)
2. Once the update is complete, the PLAY light will stop blinking. It may stay on, or stay off, depending on if the ScareMaster is connected, or disconnected.
3. Remove the SD card from the BooBox and put it back in the ScareMaster.

Understanding the Idle Screen

Below is a picture of the Idle screen you'll be seeing most of the time. It presents all the relevant information you'll need while you animate your scene.

```
SHOW NAME                              CURRENT STATE

        ┌─ UNNAMED        IDLE ─┐
        └─ IN1-0    5CH   0:08 ─┘

CURRENT SCENE                          SCENE LENGTH
              NUMBER OF                OR POSITION
              DMX CHANNELS
```
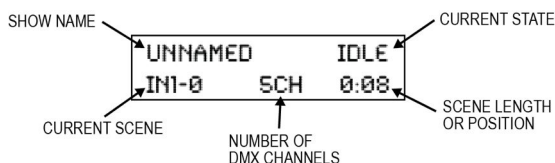
MAIN SCREEN DESCRIPTION	
Show Name	This is the name of the show that you are currently animating. This name also corresponds to the folder where the animation is saved in the FI-SHOWS folder on the ScareMaster's SD card. There are two exceptions: "BOOBOXSD" means the show is stored on the BooBox's SD card. "UNNAMED" means this show has yet to be saved to a show folder.
Current State	The current state of the ScareMaster. (IDLE, PLAY, or REC)
Scene Length or Position	When IDLE, this indicates the length of the current scene. When playing or recording, it shows your current position within that scene.
Number of DMX Channels	The number of DMX channels the current scene is using. This may or may not be visible depending on your BooBox model.
Current Scene	The current scene you are editing. AMB is the Ambient scene, IN1 is the INPUT1 scene, etc. The number after the dash represents the scene number. Each scene can optionally have 8 scenes within it for variety. The first is always 0, last is 7.

Rehearsing, Recording, and Playing Animation

Idle Mode (Rehearsing)

In Idle mode you are in full control of the BooBox's outputs. There is no audio in IDLE mode, only when you are playing or recording a scene. Press PLAY to playback the current scene, or press REC to start recording.

Recording a Scene

Press REC to start recording, any sound for this scene will start playing. Animate the outputs as you listen to the sound, whatever you do on the outputs will be recorded in sync with the sound. As you record, the timer in the bottom-right corner shows your scene position in minutes and seconds. Press REC again to stop recording. Keep recording until you get it just right, the new animation will not be saved into the BooBox until you select Save.

Playing a Scene

Press PLAY to playback the current scene. Press PLAY again to stop it or let it stop automatically when it reaches the end.

Selecting a Different Scene

Many applications only require one triggered scene, that's why the ScareMaster defaults to editing the IN1-0 scene. If your application requires an ambient scene, or multiple input scenes, you'll need to change to those scenes so you can animate them as well.

When you're on the Idle screen, your current scene is displayed in the bottom-left corner. "IN1-0" is input 1's first scene, to select another scene, enter the menu, select *Scene Menu*, then *Select Scene*. Use the A/B sliders to change the current scene selection, the current length of the scene is shown in the bottom-right corner as you scroll through. In most cases you want to make sure the B slider is all the way down so that the number after the dash is 0, see *What is a Show* for more details on this feature. Press ENTER when the desired show has been selected.

Erasing a Scene

Make sure all the available outputs are enabled, including the sliders if you are using DMX, then tap REC twice. Essentially all you are doing is recording a very short empty scene. The ScareMaster will only shorten a scene if all the outputs are enabled for recording. If only a few are enabled, then your scene will remain the same length and you'll just record a little blank animation at the beginning on the enabled outputs.

Enabling and Disabling Outputs

You can hold ENABLE and tap the output buttons to disable various outputs from recording. This way you don't have to program all the outputs at once. Once you are finished recording an output, disable it, then on the next recording pass it will play back rather than record. To enable or disable the A/B sliders, hold the ENABLE button down while moving them up or down.

Punching In

Sometimes you just want to edit a little animation in the middle of a scene without having to re-record everything up to that point. Punching In allows you to do just that. Press PLAY to play the scene as you normally would. When you get to the point you want to start recording, hold the REC button, the ScareMaster will immediately switch to recording instead of playing. Keep holding the REC button as you animate the outputs. When you're finished animating, let go of REC and the ScareMaster will switch back to playing.

Saving

Once you are happy with your scenes you must save them to the BooBox. You can edit multiple scenes and only save at the end, you do not have to do this step for each scene. Enter the menu and choose *Save* from there, or use *Save As* to save to a particular show folder.

If you disconnect before saving, your BooBox will revert back to the scenes it had before you connected the ScareMaster. Use this technique if you really messed up and want to go back to where you started. When you plug the ScareMaster back in it will prompt you if you forgot to save. If you say YES your new scenes will be recovered from the ScareMaster, if you say NO your old scenes will be reloaded from the BooBox.

Menu Shortcuts
Some of the most common menu options can be accessed with a shortcut rather than having to enter the menu each time.

Saving
Hold ENABLE then tap REC. The entire show will be saved first to the ScareMaster, then to the BooBox. This is equivalent to *Save Changes* in the Main Menu.

Selecting a Scene
Hold PLAY, wait for "Select Scene:" to pop-up. Slide the A/B sliders until the desired scene is shown in the bottom left corner, then let go of PLAY. This is equivalent to *Select Scene* in the Scene Menu.
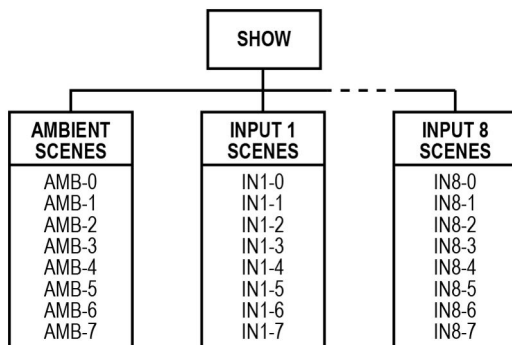
Selecting DMX/Output Channels
Hold REC, wait for the channel menu to pop-up. Slide the A/B sliders to change the DMX channel assigned to each slider. If the BooBox has more than 8 outputs, press the UP/DOWN buttons to change the current outputs. When you're done let go of REC.

What is a Show

A show consists of different scenes of digital animation and sound that are played upon a trigger, timer, or end of another scene. Most of our BooBox controllers support an Ambient scene, as well as one or more triggerable input scenes. Each of these scenes can be empty, contain one scene, or contain multiple scenes that are indexed through with each trigger. It is not necessary to have a scene programmed in every location, a very simple show may only have one Input or Ambient scene.

Show Diagram

Shown below is a graphical representation of a show and its scenes. Each scene can hold up to 8 sub-scenes, however most applications only use the first -0 scene.

```
                          ┌──────────────┐
                          │     SHOW     │
                          └──────────────┘
            ┌─────────────────┬ ─ ─ ─ ─ ┬─────────────────┐
    ┌───────────────┐ ┌───────────────┐ ┌───────────────┐
    │   AMBIENT     │ │    INPUT 1    │ │    INPUT 8    │
    │   SCENES      │ │    SCENES     │ │    SCENES     │
    ├───────────────┤ ├───────────────┤ ├───────────────┤
    │    AMB-0      │ │    IN1-0      │ │    IN8-0      │
    │    AMB-1      │ │    IN1-1      │ │    IN8-1      │
    │    AMB-2      │ │    IN1-2      │ │    IN8-2      │
    │    AMB-3      │ │    IN1-3      │ │    IN8-3      │
    │    AMB-4      │ │    IN1-4      │ │    IN8-4      │
    │    AMB-5      │ │    IN1-5      │ │    IN8-5      │
    │    AMB-6      │ │    IN1-6      │ │    IN8-6      │
    │    AMB-7      │ │    IN1-7      │ │    IN8-7      │
    └───────────────┘ └───────────────┘ └───────────────┘
```

Show Diagram

A Few Notes about Sounds

A scene is comprised of animation, and optionally some sound. The length of the animation always dictates the length of the scene. If you have a sound that's four minutes long, and program one minute of animation, you will only hear one minute of that sound when the scene plays. If you want the entire sound to be heard, you must program animation for the entire length. This also applies to scenes that have sound but no animation, common for ambient scenes. You must still record blank animation for the entire length of the sound.

Ambient Scene

The Ambient scene loops continuously while the controller waits to be triggered. This scene is most often blank, or used to set the stage for an upcoming Input scene. Often there is only audio in this scene, but more advanced scenes may also control any of the available digital or DMX outputs.

When any of the Trigger Inputs are activated, this scene will be interrupted and the corresponding input scene will begin. Once the input scene is complete, the ambient scene will restart at the beginning. For a little variety, program up to 8 different scenes and sounds in Ambient. Each one will be looped indefinitely until an input scene is triggered, upon return the *next* ambient scene will be looped.

Input Scenes

Input scenes are triggered when the corresponding trigger input is activated. By default, the scene will be played to completion, ignoring any other trigger inputs. Once completed, the ambient scene will be played if it exists, otherwise the unit will sit idle. If the trigger input is still activated once the scene completes, the scene will loop.

To add a little variety, program multiple scenes and sounds for your inputs. Each time the trigger is activated the next scene will be played. The first scene is always INX-0, second INX-1, and so on up to -7. Use as few

or as many of the additional scenes as you like, the BooBox will automatically loop back to the -0 scene after the last scene is played.

Scene Options
Each scene's behavior can be customized to behave differently depending on your requirements. See the *Scene Menu* for more information.

Creating a New Show
Depending on which model BooBox you are using, you may or may not have to create a new show. If your BooBox has an SD card that resides inside it at all times, then the show is stored on that card. There is no need to create a new show with these models, you can skip this entire section and just copy your sounds to the BooBox's SD card as described in its manual.

If your BooBox reads the show from its internal memory, then you need to create a new show on your ScareMaster's SD card. This will allow you to copy your sounds into the show's folders and upload them to the BooBox. It will also allow the ScareMaster to keep a copy of the show so you can upload it to a different controller if necessary.
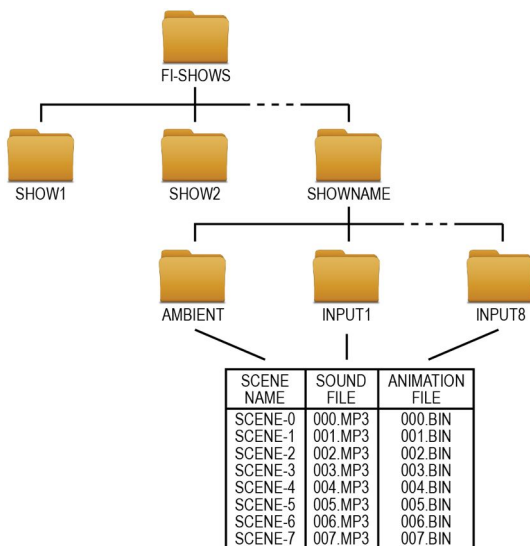
Where Does My BooBox Store the Show?
Some BooBox models store the show on an internal memory chip, some need an SD card, and some can use both. If you don't know which method your BooBox is currently using, the ScareMaster tells you when you first connect. On the same screen that shows the BooBox's version, the bottom left corner indicates the current storage method. If it says "SD", your BooBox's show is being stored on the SD card. If it says a number, like 4MB, then it's storing it on internal memory. The 4MB represents the size of the memory chip. See *Connecting to BooBox* step 3 for an example of the screen.

See the table below if you are unsure which storage method your BooBox is capable of using.

BOOBOX MODEL SHOW STORAGE OPTIONS	
BOOBOX	**STORAGE METHOD**
BooBox 4 (model: FI-204)	Internal memory only.
BooBox Flex (model: FI-206) 2011 model with DMX on box	Internal memory by default. Animation and Sounds can optionally be stored on an SD card in FI-206 sub-folders if more storage is necessary.
BooBox Flex (model: FI-206) Pre-2011 model without DMX	Internal memory only.
BooBox 8+ (model: FI-208)	SD card optional if internal memory present, otherwise the SD card is mandatory. See *Connecting to BooBox*, step 3 to determine internal memory presence and size. Animation and Sounds are stored in FI-208 sub-folders if an SD card is used.
BooBox FlexMax (model: FI-216)	Animation and Sounds stored on the SD card in the FI-216 sub-folders.

ScareMaster Show Storage System

Shows are stored inside the FI-SHOWS folder on the ScareMaster's SD card as shown in the diagram below. The FI-SHOWS folder can contain any number of shows. Each show should contain AMBIENT, and INPUT1 thru INPUT8 folders. Each of those scene folders should contain eight animation files, as well as any sound files used for the scene.

SCENE NAME	SOUND FILE	ANIMATION FILE
SCENE-0	000.MP3	000.BIN
SCENE-1	001.MP3	001.BIN
SCENE-2	002.MP3	002.BIN
SCENE-3	003.MP3	003.BIN
SCENE-4	004.MP3	004.BIN
SCENE-5	005.MP3	005.BIN
SCENE-6	006.MP3	006.BIN
SCENE-7	007.MP3	007.BIN

FI-SHOWS and Show Folder Layout

Creating a New Show Folder

Insert the ScareMaster's SD card into your computer. In the card's root directory you'll find a folder named FI-SHOWS, this folder contains all the shows on your ScareMaster. To create a new show in this folder we must duplicate an existing folder and rename it. In the example below we're going to duplicate SHOW1.

1) Right-click on SHOW1 and select *Copy*.
2) Right-click somewhere else in the same window and select *Paste*. You should now see a copy of the SHOW1 folder.
3) Rename the copied folder to a show name 8 characters or less, with no spaces.

Copying Sounds Into a Show

This step copies your sounds to the ScareMaster's SD card where they are then uploaded into the BooBox's internal memory. This step is NOT for BooBoxes that have an SD card residing in them at all times (BooBox 8, FlexMax), see *Creating a New Show* for an explanation.

Open your newly created show folder. Inside you'll see a list of scene folders, AMBIENT, and INPUT1 thru INPUT8. If you are only using one sound in each scene, you can simply copy the sound into the appropriate folder. As long as it's the only sound in the folder the ScareMaster will use it for SCENE-0.

If you are creating multiple scenes within each folder then your sounds need to be renamed to match the scene for which you'd like it to play. The first scene's sound file needs to be 000 (three zeroes). See the table below for the necessary sound filenames. Depending on how many inputs your BooBox has, some of the INPUTX folders may not be used, do not delete them.

Sound Filenames for Multi-Scene Scene Folders

> ⚠️ Some computers will not show the .MP3 file extension as we are showing it below. Many computers will just show "000". Take note of the existing sound file we placed in each scene folder. If it has the .MP3 extension then make sure yours does too, if it doesn't then don't add it to your filename.

SCAREMASTER SHOW SOUND FILES		
FOLDER	**FILENAME**	**DESCRIPTION**
\ FI-SHOWS \ SHOW \ AMBIENT \	000.MP3 001.MP3 … 007.MP3	Sound file for Amb-0 Sound file for Amb-1 Sound file for Amb-7
\ FI-SHOWS \ SHOW \ INPUT1 \	000.MP3 …	Sound file for In1-0
\ FI-SHOWS \ SHOW \ INPUT2 \	000.MP3 …	Sound file for In2-0

Deleting Sounds from the Previous Show
Since we copied this show folder from an existing show, there may be some sound files we don't need lingering around. Peak inside the AMBIENT and INPUTX folders, delete any MP3 files that aren't required in this particular show.

Uploading Sounds to a BooBox Flex
1) Eject the card from your computer and put it back in the ScareMaster.
2) Connect the ScareMaster to the BooBox and allow it to connect.
3) Enter the menu, select Show Menu, then Upload Show. Scroll down until you see the name of your new show, then press Enter. Uploading sounds can take anywhere from a few seconds to 7 minutes.

If you see the error "Sounds Too Big", you sounds are larger than the internal memory size. Either decrease the amount of sounds, or lower their bitrate to decrease the total file size.

NOTE: If you only want to change the sounds of an existing show, then you can use Upload Sounds instead of Upload Show in step 3. Upload Sounds will retain the existing show name and animation. If you are however uploading a new show, or replacing one show with another, it is recommended to use Upload Show as that will also assign the new show name to the BooBox.

Uploading Sounds to a BooBox 4
The sound system in the BooBox 4 needs the sounds to be played in with an audio cable rather than uploaded with the FrightLink cable.

1) Connect the FrightLink cable to the BooBox 4.
2) Connect a 3.5mm stereo audio cable from the ScareMaster's Line Out to the BooBox 4's Line In.
3) Enter the ScareMaster's Menu, then go to Upload Show. Scroll down until you see the name of your new show, then press Enter. The sounds will start to play into the BooBox 4. You can hear them being played if you have some speakers connected to the BooBox's Line Out.

Cloning a Show

Once a show's sounds and animation are complete, you can make exact copies of the show onto additional BooBoxes. This is great for prop manufactures that make multiple copies of the same prop.

If your BooBox uses an SD card for storage:
1) Insert the SD card into a computer.
2) Copy the FI-XXX folder to your Desktop.
3) Eject the original SD card and insert the SD card for the new BooBox.
4) Copy the FI-XXX folder from the Desktop to the new SD card.
5) Eject the card and insert it into the new BooBox.

If your BooBox uses internal memory and your show is on the ScareMaster's SD card:
1) Connect the ScareMaster to the new BooBox.
2) Enter the ScareMaster's menu, go to Show Menu, then to Upload Show.
3) Navigate to the show you want to clone by pressing the UP/DOWN buttons. Once you've found the show press ENTER. The sounds, settings, and animation will now be uploaded to the new BooBox.

See *Upload Show* and *Upload Show SD* in the Show Menu descriptions for more details on cloning using the ScareMaster.

Emailing a Show

If you're a prop manufacturer, you may find the need to update the animation or sound on a prop that's already in the customer's hands.

For BooBox's using SD Card for Storage

If your BooBox uses an SD card for storage then changing sounds is as simple as having them put the SD card into their computer and copying the new sound to the card. If they also need you to change the animation, you'll have to edit it using your ScareMaster. If you have a backup copy of their show saved on your computer or ScareMaster, then simply copy it to an SD card and insert it into another BooBox where you'll then edit it with your ScareMaster. If you don't have a backup, they'll have to email you the FI-XXX folder on their SD card so you can edit it on your end. Once you're done editing, email the FI-XXX folder back to them so they can put it back on their card.

For BooBox's Using Internal Memory

In this case you need to have a backup of the show on your ScareMaster's SD card.

1) Upload the show into a BooBox, changing sounds beforehand if needed.
2) Reanimate the show if required, saving your changes when you're done.
3) Go into the ScareMaster's menu, go to Show Menu, then Upload Show SD, select the name of the show, then press ENTER.
4) Remove the SD card from the ScareMaster and insert it into a computer.
5) Copy the FI-SHOWS folder from the SD card to your Desktop.
6) Eject the SD card.
7) Inside the FI-SHOWS folder, delete all the shows except for the one you want to email. There should now only be the one show folder and a file named DEFAULT.BIN left in this folder.
8) Zip the FI-SHOWS folder.
9) Email the zip file to your customer with the instructions below:
   1. Open the attached .zip file and find the FI-SHOWS folder contained within.
   2. Copy the FI-SHOWS folder to the root of any SD card. It must be located in the root which is the directory you see as soon as you double-click on the card in your computer.
   3. Eject the card and insert it into your BooBox Flex.
   4. Power up the BooBox. The PLAY LED should start blinking as the BooBox loads the show. This blinking can continue for a few seconds up to 4 minutes, depending on the length of the sounds.
   5. Once the blinking stops, eject the card, the show is now loaded.

What is DMX

DMX is an industry standard control protocol used to control lights, strobes, fog machines, and many other exciting stage and theatre products. Using the ScareMaster, a FlexMax or BooBox 8 can be programmed to output DMX data so you can control any DMX device in sync with the rest of your show. In DMX Master Mode, a ScareMaster can record and playback DMX scenes without a BooBox present.

DMX uses a single cable to transmit up to 512 channels of control information to many DMX devices at once. Think of the DMX cable as a TV cable, a single TV cable has many TV channels running down the wire at the same time, it's up to your TV to tune into the one you want to watch and ignore the rest. Same with DMX, each DMX device must be told which channels you want it to listen to.

Unlike TV's, DMX devices may listen to more than one channel at the same time. A four output dimmer pack will need four channels, one for each lighting channel. A colored LED spotlight might use five channels, one for each color, one for a master dimmer, and one for a strobe rate. You'll need to refer to the device's manual for a listing of its DMX channel assignments. In all cases, the channel setting on the device represents its starting channel. So if we assign our dimmer pack to start at channel 5, that would mean it's output 1 = channel 5, output 2 = channel 6, output 3 = channel 7, and output 4 = channel 8.

If you have multiple DMX lights or devices and you want them to do the same thing, start them at the same DMX channel. This way they'll all be tuned into the same information and therefore do the same thing without having to program each one separately. This can save a lot of programming time.

DMX Connections

You'll need to connect your DMX devices to the DMX terminals on the BooBox. The easiest way to do this is to cut the appropriate end off a DMX cable, strip it, and connect the wires into the DMX 1, 2, and 3 terminals. Look carefully at the DMX connector on the cable, the pin numbers are marked on each pin, make sure the wires from each pin connect to the appropriate terminals on the BooBox. This cable is also available pre-assembled from our website, part number FI-310.
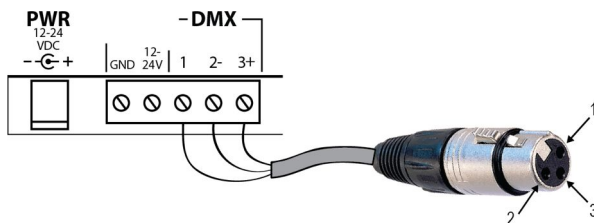
BooBox DMX Cable

Typical BooBox DMX Network

A typical DMX network with a few dimmer packs might look like this. Every DMX device has an input and output, additional devices are always connected to the output of the last device. A BooBox FlexMax is shown in the example below. If you were using a different BooBox your starting channels may be different.
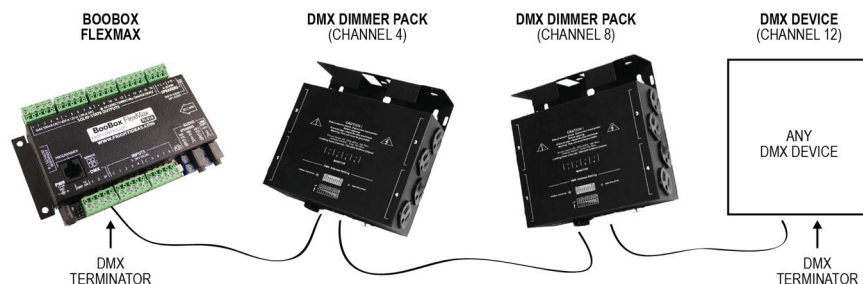
DMX Terminators

If your DMX chain is really long (100 feet or more), or if you start noticing wonky behavior, you might need to terminate your DMX chain at each end. Terminators are really just 120 ohm resistors. They absorb the signal at each end of the cable so it doesn't reflect and cause interference. You can make your own terminators or buy some from our website, part number FI-313.

Assigning DMX Channels to Devices

Your first DMX device needs to be set to start listening at the first available DMX channel on your BooBox. For a BooBox 8 this is channel 3 if you are not using servos, or 5 if you are. For a FlexMax the first channel would be 4 if you are not using servos, or 6 if you are.

Let's say we are using a FlexMax without servos, this would mean our first available DMX channel is 4. We set our first DMX Dimmer Pack to channel 4, which would mean it's listening to channels 4,5,6, and 7. Any additional dimmer packs would be set to the next available channel, which in this example would be channel 8.

The starting channel for many DMX devices is set using dip switches with each little switch having a numeric value. The first switch has a value of 1, second is 2, third is 4, fourth is 8, fifth is 16, etc. Turn on the switches that add up to the value you want. So for example if you want DMX channel 4, turn on only the third switch. For DMX channel 6, turn on both the second and third switch.

Programming DMX Animation

By default most BooBoxes are set to broadcast a minimum amount of DMX channels, to control any DMX devices you'll need to increase the number of channels.

Calculating the Number of DMX Channels Required

How many channels you need depends on what DMX devices you have connected, as well as what BooBox you are using. Add the total number of channels from all your DMX devices to the first available DMX channel on your BooBox, then subtract 1. For example, a BooBox FlexMax's first available channel is 4, if you had one four-channel dimmer pack connected you'd need a total of 7 (4+4-1) DMX channels. If you had a BooBox 8 with a starting channel of 3, and two four channel dimmer packs, your total channels would be 10 (3+4+4-1).

Increasing the Number of DMX Channels

To increase the number of DMX channels, go into the menu by holding ENABLE and tapping PLAY. Scroll down, select Scene Menu, then scroll down to DMX Channels, press ENTER. Use the UP/DN buttons to increase or decrease the number of DMX channels for this scene. When you're done, tap the left arrow until you are back to the idle screen. You'll need to repeat this step for each scene you want to use for DMX.

Assigning the DMX Channels to the A/B Sliders
Now you must assign a DMX channel to each A and B slider. Hold the REC button for a few seconds, a screen will pop up showing which channels are currently assigned to sliders A and B. Slide A and B up and down to change their assigned channel, let go of REC when you are done.
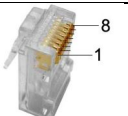
The sliders should now be outputting DMX data on their assigned channels and controlling the lights. If not, make sure recording is enabled on the sliders, the LEDs above each slider should be on. Holding the ENABLE button and flicking the sliders down then up will enable recording. Make a recording pass to program the first two channels. If you have more than two channels, hold REC again, assign the next channel numbers to the A/B sliders, then make another recording pass to program those. Any previously programmed lights will play back their animation as you record the remaining channels.

Using Fixed Length Scenes
It's highly recommended to use the Fixed Length scene option when programming scenes with DMX. Without this option enabled you will start noticing lights you recorded on a previous pass turning off or flickering towards the end of your scene. This happens because you recorded a little longer on one pass than another. The channels you recorded before now have blank or corrupt data at the end. Using the Fixed Length option will ensure your scene stops recording automatically at the exact same spot on every pass.

DMX Master Mode
For the ScareMaster to control DMX without a BooBox, a ScareMaster DMX cable is required. This can be made from a CAT5 cable, or purchased from our website, part number FI-312.

SCAREMASTER DMX CABLE PINOUT		
RJ45 PINOUT	RJ45 PIN	DMX PIN
8 1	1	2
	2	3
	3 AND 6	1

A typical DMX Master Mode network is shown below. When using the ScareMaster in this mode the first available DMX channel is 2, channel 1 is reserved as a control channel. DMX terminators are required for long cable lengths, they can be made from simple 120 ohm resistors or purchased from our website, part number FI-313.

Typical DMX Master Mode Network

Navigating the Menus

Most of the ScareMaster's options are found in its menu system. To enter the menu you must hold the ENABLE button and tap PLAY. Once you are in the menu, you use the 1 thru 4 keys to navigate. The BACK (1) key backs out of the current level, UP (2) moves up, DOWN (3) moves down, and ENTER (4) goes deeper.

When modifying a setting, UP and DOWN are used to adjust the value, press ENTER to set. Some menu options like selecting scenes, setting DMX channels, or adjust timers require using the A/B sliders.

Complete Menu Tree

Shown below is the entire menu tree with brief descriptions. Some of these options may not show up depending on which BooBox you are connected to, or which scene you are currently editing. For a detailed explanation of each option, see the following pages.

Main Menu
- Save Changes   Save animation to BooBox and current show folder
- Save As   Save animation to BooBox and a different show folder
- **Scene Menu**
    - Select Scene   Select a different ambient, or input X scene
    - Volume L   Left channel volume for this scene only
    - Volume R   Right channel volume for this scene only
    - Sound Mode   Sound mode
    - Sound Delay   Sound delay from start of scene
    - Fixed Length   Fixed length of scene recording cannot go past
    - DMX Channels   Number of DMX channels in this scene
    - Pre Delay   Delay in seconds from trigger to start of this scene
    - Post Delay   How long to ignore triggers after the scene ends
    - Interruptible   Can this scene be interrupted by another trigger
    - Self Interrupt   Can this scene interrupt itself if its own trigger fires again
    - Momentary   Will this scene play only for as long as the trigger is on
    - Autoplay Next   Will the end of this scene trigger the next scene automatically

- **Show Menu**
    - Open Show   Open a show from the SD card
    - Upload Sounds   Upload only a show's sounds to the BooBox.
    - Upload Show   Open a show from the SD card and upload it to the BooBox
    - Upload Show SD   Upload a show to the BooBox using the SD card (fastest)
    - Clear Scenes   Clear all scenes in this show

- **BooBox Setup**
    - Timer   Timer for Input1 scene to automatically fire on a schedule
    - N.C. Inputs   Normally-closed inputs
    - N.C. Outputs   Normally-closed outputs
    - Write Protect   Write Protect the BooBox
    - Factory Reset   Factory Reset the BooBox

- **SM Setup**
    - Contrast   ScareMaster LCD contrast

Main Menu

This section contains the two save options, as well as the other sub-menus.

Save Changes

This saves the current show's animation and settings. If this show is currently stored on the ScareMaster's SD card, the information is first saved to the show folder before it's uploaded to the BooBox. If the show is stored on the BooBox's SD card (BOOBOXSD), the show is uploaded to the BooBox where it then writes it to its own SD card.

If the current show does not have a name (UNTITLED), the ScareMaster will warn you saying "Show is Unnamed, Use Save As". If this occurs, the show is still uploaded to the BooBox, but a copy will not be saved on the ScareMaster's SD card unless you select Save As.

Save As

Same as *Save Changes* except you have the option of saving the information to a different show folder. Once selected, the list of show folders available on your ScareMaster's SD card will be shown. Use the UP/DOWN buttons to scroll through the different show folders. When you see the show folder you want to save to press ENTER.

Scene Menu

Each scene has options that can be adjusted to change how the BooBox behaves while a particular scene plays. The scene options are independent for each scene, only the current scene's options are changed when in this menu. To edit the options for a particular scene you must select that scene before entering this menu.

Volume L / Volume R *(0 – 25, default 25)*

Volume of the MP3 decoder's left and right audio channels. Often one channel is used for a character's voice and another for ambient sounds. Being able to adjust these volumes independently allows for easy tweaks without remixing the audio file.

Sound Mode *(Auto Ambient, None, default Auto)*

Auto – Plays the current scene's sound file if there is one, otherwise silence.
Ambient – Continues to play the ambient sound file during this scene, looping if necessary.
None – Forces silence, same as not having a sound file.

Sound Delay *(None – 8.5s, default None)*

Delays the start of the sound for up to 8.5 seconds. Useful if you need to animate the opening of a door, or fill a room with fog for a few seconds before the sounds starts.

Fixed Length *(None – 31:59, default None)*

Forces recording of the scene to stop when this length is reached. Useful when programming DMX or when accurate scene lengths are required.

DMX Channels *(2 – 33, default varies)*

Number of DMX channels this scene will output.

Pre-Delay *(None – 17:00, default None)*

Delay from when trigger is tripped to when the scene will start playing. Use this if your sensor is located ahead of your scene or prop and you need a few seconds delay for the patrons to reach the right location.

Post-Delay *(None – 17:00, default None)*

Time that the Flex will ignore trigger inputs once the scene has finished playing. Use this to prevent the prop from triggering too often.

Interruptible *(No, Yes, default No)*

Set to YES if you want this scene to be interrupted if another trigger is tripped during playback.

Self-Interrupt *(No, Yes, default No)*
Set to YES if you want this scene to be interrupted by it's own trigger. Useful if you want the next scene (i.e. IN1-1, IN1-2) to be played if the scene's trigger is tripped again while the scene is playing.

Momentary *(No, Yes, default No)*
Set to YES if you want this scene to only playback for as long as the trigger is activated, looping if necessary. This is great for actor-controlled props such as electric chairs where you want the actor to have control of exactly how long the prop is activated.

Autoplay Next *(No, Yes, default No)*
Set to YES if you want the next scene (i.e. IN1-1, IN1-2) to automatically play once this scene is done.

Show Menu
This section contains options that work with an entire show rather than just the current scene.

Open Show
This option loads a show from the SD card without uploading it to the BooBox. This is most often used when the ScareMaster is left connected to the BooBox to play scenes manually.

Once selected, the LCD will ask you to select the show. The first show in your FI-SHOWS folder will show on the second line. Use the UP/DOWN buttons to scroll through the different shows. When you see the show you want to open press ENTER.

Upload Sounds
This will upload only the sounds from a particular show to the connected BooBox. All the show's sounds are uploaded in one shot. This option is not used for BooBoxes that contain SD cards. In those cases the sounds must be copied to the card in the BooBox.

Once selected, the LCD will ask you to select the show. The first show in your FI-SHOWS folder will show on the second line. Use the UP/DOWN buttons to scroll through the different shows. When you see the show you want to upload the sounds from press ENTER.

Upload Show
This option will upload the animation, sounds, and settings from a particular show to the connected BooBox. Use this when first copying sounds to a BooBox, replacing a BooBox, or making a clone.

Once selected, the LCD will ask you to select the show. The first show in your FI-SHOWS folder will show on the second line. Use the UP/DOWN buttons to scroll through the different shows. When you see the show you want to upload press ENTER.

Upload Show SD
Same as Upload Show but uses the SD card to upload the show rather than the FrightLink cable. This option is faster, and can also be more convenient if you have to load the show into multiple units.

Once selected, the LCD will ask you to select the show. The first show in your FI-SHOWS folder will show on the second line. Use the UP/DOWN buttons to scroll through the different shows. When you see the show you want to upload press ENTER. The ScareMaster will then prompt you to remove the SD card and insert it into the BooBox. Insert it into a BooBox, the BooBox's PLAY light should blink as it loads the show, when it stops blinking it's done and you may remove the card. Repeat with as many BooBoxes as you need, then put it back in the ScareMaster.

Clear Scenes
This option will erase all the scenes in the current show.

BooBox Setup

BooBoxes have some general settings that can be adjusted using the ScareMaster.

Timer *(None – 31:59, default None)*
Use this to trigger the Input 1 scene on a schedule. The time you set here is the time between shows.

N.C. Inputs *(N.O., N.C., default N.O.)*
Each trigger can be set to respond to a normally open (N.O.) or normally closed (N.C.) trigger. Use the A slider to select the input, and the B slider to adjust the setting.

N.C. Outputs *(N.O., N.C., default N.O.)*
BooBox outputs can be set to simulate a normally closed contact. This would invert the behavior of the output, turning it off when it's activated, and on when it's not. This can be useful to keep a light output on by default and have it go off when a scene starts. Use the A slider to select the output, and the B slider to adjust the setting.

Factory Reset
Use this to reset the BooBox to its factory settings. If the connected BooBox has an SD card inserted then the SD card must also be cleared and rewritten with fresh files from our website's *Product Support* section for a full reset.

SM Setup

Contrast
This option will adjust the contrast of the ScareMaster's LCD.

Modifying an Existing Prop

Each year, the industry's leading prop manufacturers incorporate thousands of BooBoxes into their props and scenes. Many customers purchase a ScareMaster so they can customize the animation of a prop they've received from one of these vendors. If that's you, read on for a quick crash course in modifying the animation.

1) Connect the included cable from the ScareMaster's *To Controller* port, to the BooBox's *Programmer* port. The ScareMaster will power up and immediately download the current animation from the connected BooBox.

2) When first connected, the ScareMaster will edit scene IN1-0 as shown in the bottom-left corner. This is the scene that plays when the motion sensor, pressure mat, or button is activated. This is most likely the scene you want to edit, in which case you can skip to the next step. If it's not, see *Selecting a Different Scene*.

3) Pressing the output buttons 1 thru 8 should now activate the action associated with that output. Carefully press each button, making sure you're out of the way of any mechanics that may move. Get familiar with what each output does so you know which ones you want to change.

4) Now that you know what each output does, let's try changing one of them. Let's say we like everything the prop does except one output, output 4. Hold the ENABLE button and tap all the output buttons *except* output 4. When you're done, only the red light next to button 4 should be on. This will allow us to change only the animation for output 4 while preserving the original animation on the rest.

5) Press REC, if the prop has sound it will start playing. All of the outputs will start to operate as the manufacturer programmed them, except for output 4, that's under your control now. As you listen to the sound, press button 4 when you want the output to turn on, let go of it when you want it to turn off. The ScareMaster will memorize what you do and save it. When you are done recording, or if you make a mistake, just press REC to stop recording.

6) Repeat the previous step until you are happy with what you've recorded.

7) Press PLAY if you want to watch the entire scene without having to record anything.

8) Once everything's the way you want it you need to save it to the BooBox. Hold the ENABLE button and tap REC. The ScareMaster will now upload your changes to the BooBox.

9) Disconnect the ScareMaster and trigger your prop to see it in action.

Creating a New Prop from Scratch

Here are the steps we'd follow if we just bought a BooBox and wanted to incorporate it into a new prop. It looks like a lot of steps but it's really not. We're trying to be as descriptive as possible, it'll take longer to read most of these than to actually perform them.

This prop will have one ambient scene and one input scene triggered by a motion sensor. This walk-through assumes your sounds are already in MP3 format.

A. Mount the BooBox in the prop. Connect the outputs and motion sensor as shown in the BooBox's manual.
B. Connect the Power Supply to the BooBox and plug it in.
C. Choose option D1 or D2 below.

D1. If you are storing your show on an SD card located inside a BooBox (BooBox 8, FlexMax, some Flex), follow these steps, otherwise skip down to D2.
1) Remove the SD card from the BooBox and insert it into a computer's SD card reader.
2) On the SD card you'll see a folder named to match the model number of your BooBox, FI-206, FI-208, FI-216, etc. Open that folder.
3) Inside that folder you'll see an AMBIENT folder, as well as some INPUT folders. Open the INPUT1 folder, this is the scene that plays when the motion sensor activates.
4) Notice there is usually already a sample sound in this folder. The filename will be 000, the icon should indicate it's a music file. Do not confuse this with the 000.BIN file that stores the animation.
5) Delete the existing sound file.
6) Copy your scare sound into this folder. Rename it to 000 (three zeros). IF your computer also highlights a .MP3 portion of the filename while you are renaming, make sure you leave that in tact. In that case the filename would look like 000.MP3.
7) Back out of this folder, open the AMBIENT folder.
8) Copy your ambient sound into this folder. Rename it to 000 as well using the same method as above.
9) Eject the SD card and insert it into your BooBox.
10) Connect the ScareMaster's *To Controller* port to the BooBox's *Programmer* port using the included cable. The ScareMaster will power up and immediately download the current animation from the connected BooBox.
11) Continue with step E below.

- OR-

D2. If the total size of all your sounds is less than 4MB and you want to copy them to the internal memory of a BooBox Flex, follow these steps.
1) Remove the ScareMaster's SD card and insert it into a computer's SD card reader.
2) Open the FI-SHOWS folder.
3) Right-click on the SHOW1 folder, Select Copy.
4) Right-click somewhere on a blank space in that same window, select Paste. A duplicate of the SHOW1 folder should be created.
5) Rename the duplicate folder to a name of your choice 8 characters or less, no spaces.
6) Open your newly renamed show folder, inside you'll see an AMBIENT folder, as well as some INPUTX folders.
7) Open the INPUT1 folder, this is the scene that plays when the motion sensor activates.
8) Notice there is usually already a sample sound in this folder. The filename will be 000, the icon should indicate it's a music file. Do not confuse this with the 000.BIN file that stores the animation.
9) Delete the existing sound file.
10) Copy your scare sound into this folder. Rename it to 000 (three zeros). IF your computer also highlights a .MP3 portion of the filename while you are renaming, make sure you leave that in tact. In that case the filename would look like 000.MP3.
11) Back out of this folder, open the AMBIENT folder.

12) Copy your ambient sound into this folder. Rename it to 000 as well using the same method as above.
13) Eject the SD card and insert it back into your ScareMaster.
14) Connect the ScareMaster's *To Controller* port to the BooBox's *Programmer* port using the included cable. The ScareMaster will power up and immediately download the current animation from the connected BooBox.
15) Go into the menu by holding ENABLE and tapping PLAY. Scroll down to Show Menu, press ENTER. Scroll down to Upload Show, press ENTER. Use the UP/DOWN buttons until you see the name of your new show folder. Press ENTER. The sounds will now be uploaded to your BooBox, this may take a few minutes.
16) Continue with step E below.

- BOTH -

E. Our sounds are now loaded into our BooBox and we are ready to start animating. Our ScareMaster LCD screen should show IDLE in the top-right corner. Press each of the output buttons, the corresponding BooBox outputs should activate. Get comfortable with what each output is and how fast it fires. When you are ready to try recording, continue to the next step.
F. Press REC, your scare sound should start playing. Animate your outputs in real-time as your listen to your sound. Press REC when your scene is done or if you make a mistake.
G. Repeat the previous step until you are happy with what you recorded. Press PLAY to preview the scene. See *Rehearsing, Recording, and Playing Animation* for a much more detailed description, as well as some tips about how to record animation more effectively.
H. Now that our INPUT1 scene is done, let's program the ambient scene. Hold PLAY until you see *Select Scene* pop-up. While still holding PLAY, move both the A/B sliders all the way to the bottom. The scene should now read AMB-0, let go of PLAY.
I. Animate this scene the same way you did the previous one.
J. Once you're happy with this scene we just need to save our show. Hold ENABLE and tap REC, your show will now be uploaded to the BooBox.
K. Disconnect your ScareMaster from the BooBox. Your ambient scene should immediately start looping.
L. Try triggering the motion sensor, your scare scene should play when the motion sensor trips.

Errors

Occasionally the ScareMaster may display an error, sometimes with a code in the bottom right corner as shown below. Refer to the table below for more information on what the error means.

```
Initialize Card
          E:22
```

Typical Error Screen

ERROR CODES	
Error (code)	**Description**
No Device (0C)	The ScareMaster has lost communication with the BooBox. Try again, you may have to power down first. If you are connected to DMX equipment you may have to use terminators.
Error Writing (98 or 99)	There was an error writing data to the SD card. If it keeps happening try replacing the files on your SD card with known good copies from our website.
File/Folder Not Found (85)	A file or folder the ScareMaster needs to operate is missing. You may need to download the ScareMaster Combo Update from our website and refresh your card.
SD Card Error (80 to 9F)	Generic SD card errors.
Initialize Card (20 to 23)	Crucial files or folders are missing, refresh your card.
Too Many Files	The BooBox's internal memory can only hold a certain number of sound and animation. Reduce the number of sounds or scenes and try again.
Sounds Too Big Decrease Size	The sounds and animation you are trying to upload exceeds the size of the BooBox's internal memory. Decrease the total size of your sounds. This can be achieved by either removing sounds, or decreasing their bitrate.

Specifications

SPECIFICATIONS TABLE	
Audio	
Format	MPEG 1 and 2 Layer 3 (MP3)
Quality	Up to 320 kbit/s
Storage Type	SD Card, SDHC (cards 4GB and above) supported
Physical	
Length	5.75"
Width	5.4"
Height	2.25"
Weight	1.25 Lbs (0.57Kg)
Electrical	
Operating Voltage	12 - 24 VDC recommended, 35 VDC absolute maximum
Power Consumption	100mA at 12V, 70 mA at 24V