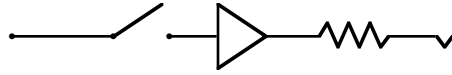


**CUSTOM AUDIO ELECTRONICS INC.**



**RS-10 MKII**  
**MIDI FOOT CONTROLLER**

***OPERATING***  
***GUIDE***

## Introduction

The Custom Audio Electronics RS-10MKII is a rugged, simple to use MIDI foot controller capable of sending both program change and controller data on a single MIDI channel. It can be used as a stand alone basic MIDI patch changer or as the Master Controller of a more elaborate CAE switching system. The RS-10MKII utilizes 10 heavy duty footswitches for activating Presets or Direct Access Control data, depending on the status of the Mode/Store switch. Included is a Bank/Return switch giving access to 10 Banks of 10 Random Access presets for a total of 100 memory locations. In addition, the RS-10MKII supports the use of up to 3 8-switch Expander Modules for Direct Access control. Therefore, it is possible to create a foot controller with 10 Banks of 10 Random Access Presets along with 34 Direct Access Controller switches!

## Powering the RS-10MKII

The RS-10MKII is powered by 9VAC at approx. 300ma. Power can be applied directly at the unit's Power In/Out jack or by phantom powering via a 7 or 5 pin MIDI cable. When phantom powering using a 7 pin cable, 9VAC is supplied across pins 6 and 7. When using a standard 5 pin MIDI cable, 9VAC is supplied across pins 1 and 3. Care must be taken when using a standard 5 pin MIDI cable in that all 5 pins must be connected at each end of the cable. On both 7 and 5 pin cables, MIDI data is on pins 2, 4 and 5. Also, when phantom powering, the 9VAC supplied via the MIDI cable also appears at the RS-10MKII's 9VAC In/Out jack. This can be useful if a source of 9VAC power is needed on the pedalboard. Consult the factory for details.

## RS-10MKII Output

The RS-10MKII sends MIDI Program Change commands and Controller data on MIDI Channel 1 only. The channel number is fixed and cannot be changed. Data is configured as 10 Banks of 10 Random Access Presets. That is, a Preset consists of a MIDI program change command along with a combination of the 10 Direct Access Controller switches (assuming a single RS-10MKII is used with no Expanders). A different Program Change command can be programmed for each of the 10 Presets per Bank, however, the Direct Access Controller numbers are global and remain the same in all Presets. Of course, the on/off status of each of the 10 Direct Access Controller switches is stored along with the Program Change command and thus makes up a Preset.

## The Display

The RS-10MKII 3 character 7 segment display indicates the current Bank status (0 through 9) when in Preset mode using the leftmost digit. When in Direct Access mode, the display shows "dir". When the status of any of the Direct Access Controller switches is changed, the decimal points in each of the 3 digits flash, indicating an edited combination. When programming controller and/or program change commands, the display indicates those numbers. 3 digit control change numbers may be programmed (000 through 127), however, since the display indicates the Bank selected only a 2 digit Program Change command (01 through 99) may be programmed.

## Operation

The RS-10 MKII utilizes 2 basic modes of operation, Preset Mode and Direct Access Mode. The mode of operation is determined by the status of the Mode/Store switch. Press the Mode/Store switch to change between Preset Mode and Direct Access Mode as indicated by the Display (See above).

## Preset Mode

Enter Preset Mode by pressing the Mode/Store switch and observing the Display. The leftmost digit should be lit indicating the current Bank status. Use the Bank/Return switch to scroll through the 10 available Banks. One of the 10 switch LED's will be lit above the currently active Preset switch. These 10 switches are labeled C1/PS-1 through C10/PS-10 ("C" indicates "controller" and "PS" indicates "Preset"). Presets are random access and mutually exclusive, that is, only one Preset is allowed at a time. To select a different preset, just press the switch you want. The current Preset will change to the new one you just selected as indicated by the LED's above each switch.

## Direct Mode

Enter Direct Access Mode from Preset Mode by pressing the Mode/Store switch. The Display reads "dir", and the Preset status of each of the 10 Direct Access switches is indicated by their respective LED's. To change the status of any of the Direct Access Controller switches, press that switch. Its respective LED will go on (or off) and the decimal points in the Display will begin to flash, indicating an edited Preset combination (if you change the status of that same switch to the way it was when you entered Direct Access Mode, the Display decimal points will stop flashing). After making any changes to the combination of the 10 Direct Access switches as indicated by LED status and display decimal flashing, you can then store this new combination by pressing the Mode/Store switch. The Display decimal points will stop flashing and the new combination will be stored in memory. To re-enter Preset Mode, press the Mode/Store switch again. The Display will now indicate current Bank status and the respective Preset LED will be lit.

## Editing Program Change Commands

To store a MIDI Program Change command in a Preset, start by selecting the desired Bank/Preset while in Preset Mode as indicated by the display and the respective Preset LED. Then follow this procedure:

1. Press and hold the desired Preset Switch. After 3 seconds, the Display will indicate current Bank status, a decimal point, and the current program change command in the center and rightmost segments (01 through 09). If there is no Program Change command for this Preset, “-” will be displayed instead.
2. Press the Mode/Store switch to underscore the center and rightmost display segments.
3. Enter a 2 digit program change number using the 10 Direct/Preset switches. You must enter a leading “0” (by using the C10/PS-10 switch) for any numbers below 10. Example: For Program Change number 5, press switch C10/PS-10, then C5/PS-5. If you make a mistake on any entry, press Bank/Return.  
NOTE: PRESSING THE BANK/RETURN SWITCH IS AN EASY WAY TO CORRECT ANY WRONG ENTRY!  
Example #2: Program Change #84: Press switch C8/PS-8, then switch C4/PS-4. NOTE: A number cannot be entered without first underscoring the Display with the Mode/Store switch. The Program Change command is automatically stored in the selected Bank/Preset. Any entry above 99 will be ignored.
4. Once in Program Change Edit mode, you can freely select any of the Presets in the current Bank to view and/or edit existing Program Change commands.
5. To clear an existing Program Change command from a given Preset, enter 00 (by pressing the C10/PS-10 switch twice).
6. To exit the Program Change Edit Mode, press the Bank/Return switch. You will now be in the Preset you were in when you left Program Change Edit Mode.

## Editing Direct Access Controller Numbers

Each of the 10 Direct Access/Preset switches can be assigned a MIDI Control Change number from 000 to 127. Any numbers above 127 will be ignored. To enter Direct Controller Edit Mode, start by selecting Direct Access Mode from any Preset (as indicated in the display) using the Mode/Store switch. Then follow this procedure:

1. Press and hold the desired Direct Access switch. After 3 seconds, the respective Direct Access switch LED will be the only one lit and the Display will indicate the 3 digit MIDI Control Change number for that switch.
2. Press the Mode/Store switch to underscore the Display, then enter the new number using the 10 Direct/Preset switches. Remember to enter leading “0”s for numbers below 10 using the C10/PS-10 switch. Follow the same procedure for entering numbers as you did with Program Change commands. Invalid entries will be ignored.
3. Use the Bank/Return switch to correct any errors or to move to the previous setting when entering numbers.
4. Once you are in Direct Controller Edit Mode, you can freely select any switch to view and/or edit any Direct Access Controller number. Selection is mutually exclusive. That is, only one switch can be viewed at a time.
5. When finished programming, to return to Direct Access Mode, press Bank/Return. From there, to get to Preset Mode, press Mode/Store.

## “Power On” Setup Modes

There are several “Power on” procedures that can be used to make programming the RS-10MKII a little easier. They each involve holding down a particular switch before applying power to the unit. Keep the switch held down until the display shows the current Bank number. Then release. The RS-10MKII will retain these settings in memory until you decide to change them. Programmed Presets will be retained except for the reset procedure (#7).

1. Press and hold switch C4/PS-4 on power up to program the Direct Access switches for CAE 4x4 control.
2. Press and hold switch C2/PS-2 on power up to program the Direct Access switches for CAE 2x4 control.
3. Press and hold switch C6/PS-6 on power up to program the Direct Access switches for CAE RL-8 control.
4. Press and hold switch C8/PS-8 on power up to program the Direct Access switches for Amp Sel+ control.
5. Press and hold switch C1/PS-1 on power up to set Program Change Commands from 1 to 128.
6. Press and hold switch C10/PS-10 on power up to set Program Change Commands from 0 to 127.
7. Press and hold switches Bank/Return and Mode/Store on power up to reset to factory default. NOTE: Factory default settings are the same as 2x4 controller settings with no Program Changes sent.
8. Press and hold Bank Switch to change Midi Out channel from 1 to 16 (Version 1.1 software only).

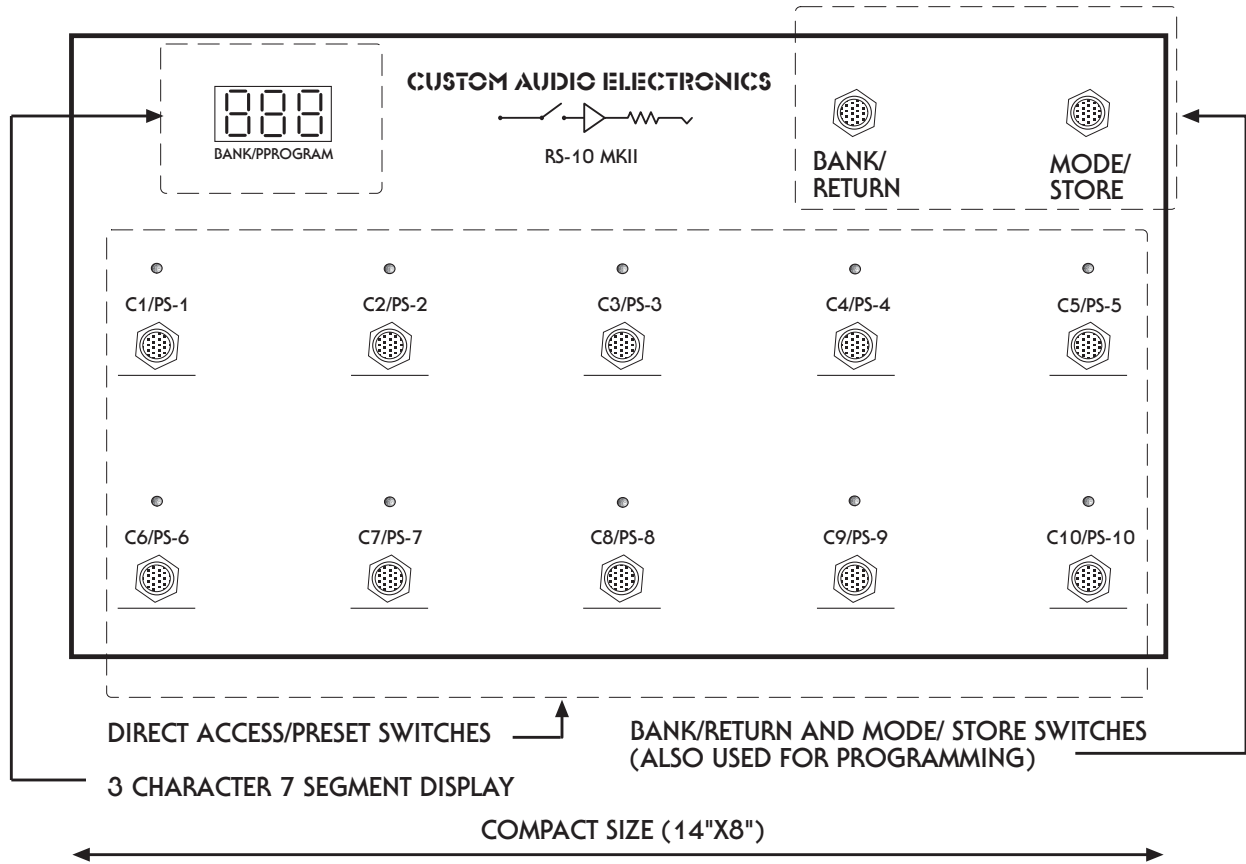
## Expanders

The RS-10MKII is capable of supporting up to 3 Expander Modules, each containing 8 Direct Access Controller Switches. When using Expanders, the Direct Access switches are always available in either Preset or Direct Access Mode on the RS-10MKII. Programming the Expander’s MIDI Control Change numbers is the same as on the RS-10MKII. Connect the Expander to the RS-10MKII via the supplied 7 pin DIN cable with RS-10MKII power off.

# CAE RS-10MKII

## DESCRIPTION OF CONTROLS AND CONNECTIONS

TOP VIEW



FRONT VIEW



EXPAND JACK  
(FOR CONNECTION TO EXPANDER MODULES)

9VAC POWER IN/OUT JACK

MIDI OUT JACK + PHANTOM POWER  
(ACCEPTS 7 PIN OR 5 PIN MIDI CABLES)

AUX 1/AUX 2 PORTS  
(USED FOR CAE CUSTOM INSTALLATIONS)

MIDI OUT/POWER XLR  
(HEAVY DUTY 4 PIN CONNECTOR FOR  
CONNECTION TO OTHER CAE PRODUCTS)

4 PIN XLR

PIN1 9VAC  
PIN2 9VAC  
PIN3 MIDI OUT +  
PIN4 MIDI OUT -