

Crestron ECM 64e Demo Program

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This program demonstrates the ability for a Crestron CNMSX system to control an ECM 64e. From this program all inputs and output routings along with their respective levels are controlled. All features of the hybrid, along with DTMF dialing, Off Hook and Ring Status, are also demonstrated.

Starting operation of this program begins with the system initialization (S-1 : Analog Initialize). From S-1 the ECM 64e address is currently set to 5. The other initializations are used to setup the RaneWare generic memory recalls. Pressing the System On button (RaneWare Logo) sets SysOn high which initializes all Rane modules and starts S-6 : Delay.

S-6 performs three delays:

1. InitMem (Initialize Memory 1 - Recall Memory 1 all units (S-18 : Rane Recall Memory))
2. InitLev (Initialize Levels - Get input and output parameters (S-9 : Rane ECM 64 Out 1))
3. StartOpstats (Starts S-5 : Oscillator to get Opstats from S-3 : Rane ECM 64 Hybrid)

S-5 : Oscillator

This Crestron Symbol produces a 1 second running pulse that is sent to the Digital Input OPSTATS on the S-15 : S-3 : Rane ECM 64 Hybrid. This oscillator is controlled by SysOn and any LevelEvent signal. A LevelEvent is generated whenever a volume level is changed and is used to stop the oscillator.

S-4 : Rane RW232 Processor

This module is used to improve the programming of all the other RW232 modules by accepting a simplified version of the RW232 commands and placing the command along with its length into a Queue. The data structure of the string RW232\$ is Device Type, Address, Command, Data ... All in Hex. Note – You no longer need to know the data length, checksum or when to add the extra hex FBs. Also, you need not worry about the timing of a level controls or anything else. This module does all the worrying for you.

The received data from the Rane device are also processed through this module to simplify the programming of all the other RW232 modules. This module removes any extra hex FBs and adds a prefix to the front of the received data (Device Type and Command). The prefix is used by the other RW232 modules as a marker to process or not to process the data.

To make your life even easier during operation this module will report error conditions at the Viewport. If there is an error due to invalid data or loss of communication with the Rane device, you will be able to view the error. This will save you lots of debugging time due to setting the wrong device address on the Rane equipment or an bad cable. Another feature this module offers is a SYS_RDY output (System Ready). If there is an error condition, this output goes low causing all other Rane modules to stop, including button feedback.

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S-14 : Rane ECM 64 Inputs

All of the ECM 64e input levels and mutes are controlled by this module.

This module allows for:

- ECM 64e RaneWare Address Initialization upon startup.
- Up/Down level control.
- A Mute toggle function.
- An input level control that can be set by dragging the bar graph of a touchpanel or by an initialization from the program.
- A level feedback to the touchpanel for a bar graph level indicator.
- A level initialization which retrieves all input parameter information for the ECM 64e.

S-9, S-11 – S-13 : Rane ECM 64 Output 1 through 4

Each of these modules control their respective output. All of the ECM 64e matrix input levels and routing, along with the output level and mute are controlled by this module.

This module allows for:

- ECM 64e RaneWare Address Initialization upon startup.
- Up/Down level control.
- A Mute toggle function.
- An input level control that can be set by dragging the bar graph of a touchpanel or by an initialization from the program.
- A level feedback to the touchpanel for a bar graph level indicator.
- A level initialization which retrieves all of the output parameter information for the ECM 64e.
Note – Use only one module to retrieve this data.

S-3 : Rane ECM 64 Hybrid

This module performs all of the hybrid functions for the ECM 64e.

This module allows for:

- ECM 64e RaneWare Address Initialization upon startup.
- Separate On Hook and Off Hook buttons
- A toggle On Hook / Off Hook button
- Hold, Flash, Auto-Answer, Auto-Disconnect, Dial, Answer / Dial buttons
- 20 digit DTMF dialing with Keypad, Pause, Backspace and Clear buttons
- Six stored Location numbers with Store button
- Opstat data retrieval from the ECM 64e to determine Off Hook and Ring status, Received DTMF number and Program level.

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S-18 – S-21 : Rane RW232 Memory Recall

These modules are generic to all RW232 products.

This module allows for:

- *RaneWare Address - Set to 0 for Broadcast to all units.
 - *Memory type or Channel Number
 - *Memory Number
 - Memory button
- * Initialization upon startup

Set the MEM_TYPE to a corresponding Memory Type or Channel number at startup:

ECB 62e:

MemType	Description
0	All Memory
1	Port Settings Only
2	Mic Settings Only
3	Mixer Settings Only
4	Mic and Mixer settings Only

RPE 228d:

MemType	Description
0	Both Channels
1	Channel 1
2	Channel 2

ECM 64e:

MemType	Description
0	All Memory
1	Input Settings Only
2	Output Settings Only

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