

DCS 6000



User Manual

Digital Conference System



**SW 6000 Conference Management Software
Version 3.3**

**ECA External Control Application
User Manual**

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ECA External Control Application

Description

This document describes the RS232 protocol for communicating with a DCS 6000 Microphone System through a SW 6000 CUI application.

A CU 6010 has only one serial port for control and monitoring from external equipment. In a number of installations it's required that SW 6000 (the PC based UI for monitoring and control of the DCS 6000 system) is used. As only one serial port is available on the CU the solution is for the SW 6000 to add a serial interface for receiving commands from an external application and relaying these to the CU – also status from the CU is relayed on this extra serial interface. The ECA External Control Application is this solution.

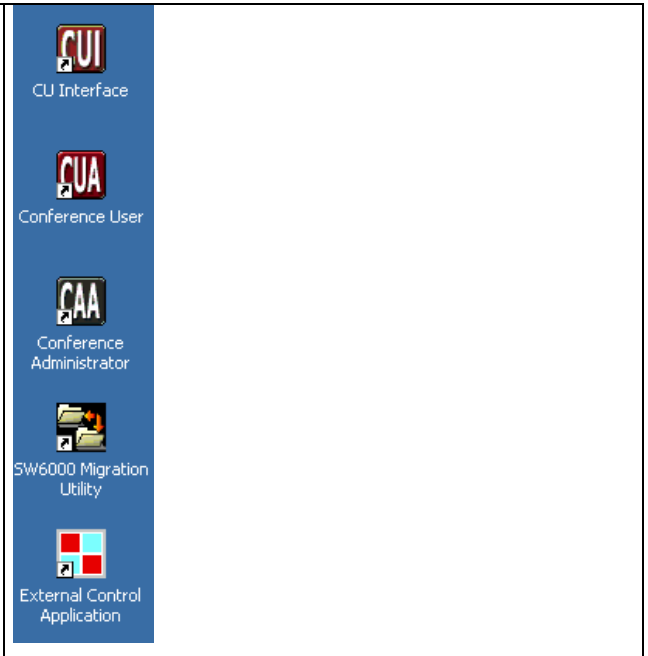
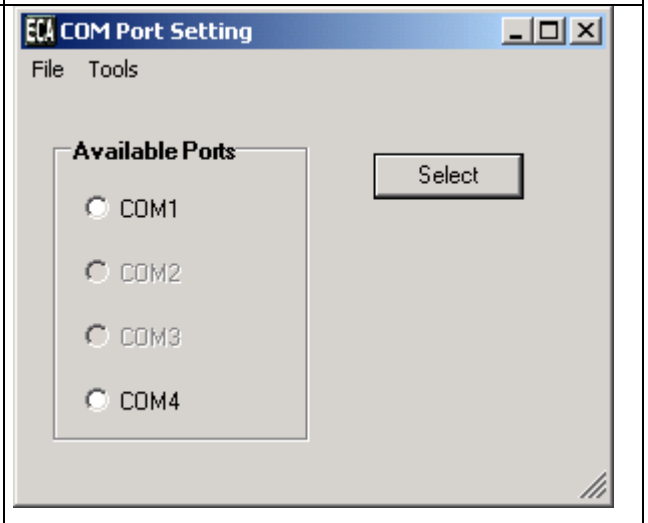
For installation of the ECA application please refer to the SW 6000 Installation manual.

As the full protocol for communicating with a DCS 6000 system is complex to use it's required that a simpler interface be exposed. The simpler interface supports applications developed by customers and does not expose all of the control options available in the CU.

Customer applications can include but are not limited to AMX or Crestron room control systems, PC or micro controller based applications e.g. for button mimics and camera control applications.

While the full protocol requires the connected equipment to handle complexities of unit serial numbers and also if a unit is replaced the serial number must be changed the limited protocol only expose microphone units using a seat number and exchanging a microphone will require the user to update the SW6000 settings but no change is imposed on an application connected through the ECA application.

Starting the ECA

<p>1</p>	<p>After the ECA has been installed, the ECA shortcut is placed on the Desktop and in the start folder.</p> <p>Click the ECA shortcut to start the application</p>	
<p>2</p>	<p>Click on the COM port where the external control equipment is connected and activate 'Select'.</p> <p>The ECU application is now started</p>	

Note: Please refer to the 'SW 6000 Installation Manual' for information in how to get the ECA Application to start automatic and how to get a bebug window.

RS 232 Commands

Commands from CUI to ECA

The commands sent from the CUI to an ECA are described here. The commands are all ASCII commands – the commands should be possible to send and receive from any terminal e.g. HyperTerminal or TeraTerm. Only printable characters are used so it's possible to use any terminal program to key in commands and see the response. This approach has been used to facilitate testing and development by customers.

<Seat no> 1-5 ASCII bytes with the seat number – this is equivalent to the content in the seat table for identifying the microphone e.g. “**50001**” or “**123**”

<CHKSUM> 2 ASCII characters representing the hexadecimal checksum calculated over the command and seat no. In the command “**!S1234:1D**” the checksum has been calculated this way: ‘S’=83, ‘1’=49, ‘2’=50, ‘3’=51, ‘4’=52 now the sum is calculated $\text{sum} = 83 + 49 + 50 + 51 + 52 = 285 \text{ mod } 256 = 29$ – this is written using hex notation as 0x1D – the 2 hex characters are used put in the command..

<CR> Carriage return – 0x0D = 13

Microphone On

!S<Seat no>:<CHKSUM><CR>

Sent when microphone is put in speak.

Microphone in speak

!s<Seat no>:<CHKSUM><CR>

Sent as a response to a microphone status request message to indicate that the microphone is in speak.

Microphone Off

!O<Seat no>:<CHKSUM><CR>

Sent when microphone in speak is switched off.

Request On

!R<Seat no>:<CHKSUM><CR>

Sent when microphone is put in request.

Microphone in request

!r<Seat no>:<CHKSUM><CR>

Sent as a response to a microphone status request message to indicate that the microphone is in request.

Request Off

!N<Seat no>:<CHKSUM><CR>

Sent when microphone is switched off from request.

Max Speakers

!K<max spk>:<CHKSUM><CR>

Maximum number of delegates allowed to speak.

<max spk> Can be set to “1” to “8” on CU 6010.

Max Requests

!Q<max req>:<CHKSUM><CR>

Maximum number of delegates allowed in the request list. <max req> Can be set to “0” to “255”.

System Operation Mode

!E<mode>:<CHKSUM><CR>

System operation mode possible values are: “AUTO”, “FIFO”, and “MANU”

Status done

!D<CR>

Sent to indicate that complete status of the microphone system has been transmitted.

Commands from ECA to CUI

The commands issued to control microphones are identical to the commands that relay status from the CUI. E.g. to set microphone seat no 7 on the command “!S7:8A<CR>” is issued – the same command will return from the CUI to reflect that the microphone has actually been switched on.

Request System Status

?D<CR>

Sending this command will cause the CUI to transmit the current status of the system as a series of commands for max speakers, max requests, operation mode and a series of microphone in speak and microphone in request commands. When the CUI has transmitted all pending status information the Status done command is received.

Observe that activity during a status request may cause e.g. speak on commands to be transmitted before all microphones in speak commands have been issued – this should not cause problems as the two commands use a different syntax.

Command: All Microphones Off

A functionality, where the CUI sends the command "all mic off" to the ECA'en is available.

This functionality shall enable before it can be used. This is done by adding the following command line parameter to the shortcut starting the ECA:

```
prjCUI.exe -ALLMICOFF
```

When the last microphone is turned off the message is sent to the ECA: "!F"