

Generic RS485 Control Commands for iFlex Mixers

iFlex DSP audio mixers provide for third party controllers using the RS485 communications protocol. Parameters for the protocol are:

19200 baud, 8 bit, no parity.

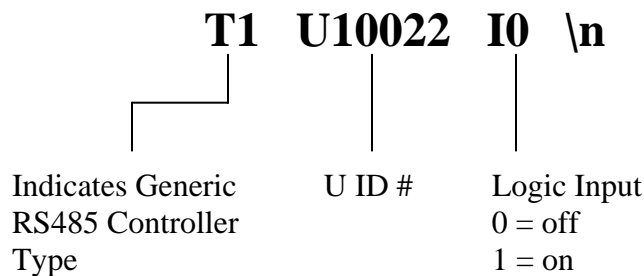
Pin 1 is the A RS485 input and Pin 2 is the B RS485 input

There are two possible command types that can be sent to an iFlex unit via RS485:

1. Switch state changes
2. Volume settings

Switches:

Switch state changes have the following format: T1U10022I0\n



All third party controllers must use the T1 identifier in command strings to indicate the string comes from a non-Ivie controller.

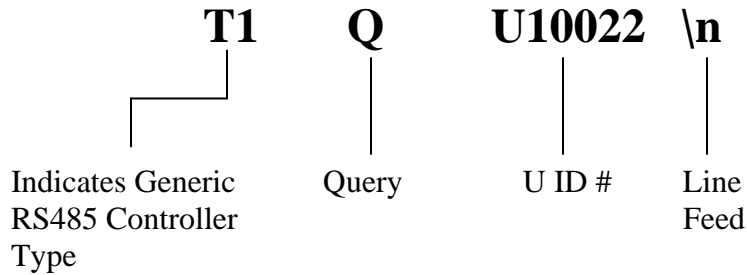
U ID numbers are assigned at the time a control is created in the Sonata software. These U ID numbers are unique to each control in a Sonata layout file, and can be found in the properties dialog box for a given control. These ID numbers are automatically assigned during control creation in the software, but can be manually changed when desired. The U ID numbers are used to match physical controls in the real world with virtual controls created in software.

The state of a logic input is set to 0 for off, and 1 for on.

\n is a required line return

Request Data from the iFlex.

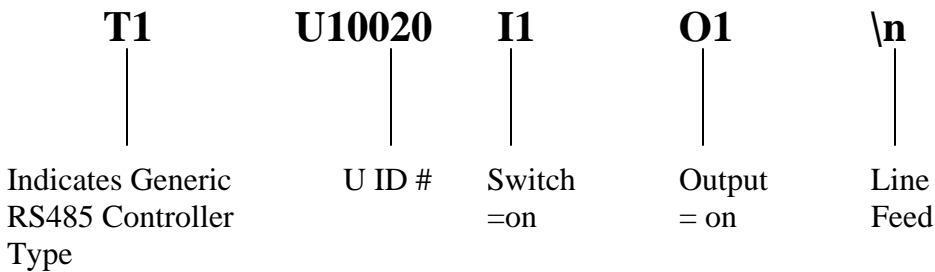
Data requests from the third party controller to the iFlex mixer have the following format:
T1Q10020\n



iFlex controls always contain a switch, an output, and a level control. This means that for each unique U Id# there will be an associated switch, and output, and a level. This does not mean that users will always use the three elements for a given U Id #, and often users will only create one of the elements of a control per U Id #. The iFlex mixer will, however, always return the states of all three elements for a given U Id # request.

iFlex mixers use a half duplex RS485 protocol for sending and receiving command strings. The normal state for the iFlex mixer in this protocol is to be a receiver, and to wait for commands from the controller. When a command is a query for state information however, the iFlex mixer switches to become the sender, and as soon as the string is sent, returns to receiver mode.

The response string that is sent by the iFlex mixer to the third party control is as follows:
T1U10020I1O1\n



Multiple Queries

An example of a multiple U ID # query is as follows: T1Q10020Q10021\n

T1	Q	U10020	U10021	\n
Indicates Generic RS485 Controller Type	Query	U ID #	U ID #	Line Feed

For the above request a response string would possibly be:
T1U10020I1O0U10021I0O1\n

T1	U10020	I1	O0	U10021	I0	O1	\n
Control Type	U ID #	Switch =on	Output = off	U ID #	Switch =off	Output =on	Line Feed

Selector Switches

iFlex mixers support analog or digital selector switches as a part of the programming layout. Analog versions use switches wired with resistors in series to create a voltage divider. Users may specify the number of discrete steps when the control is created in the layout.

Digital versions (such as those that may be implemented by third party controllers) are created using the same method. However, in the digital versions the controller will send a command to the iFlex mixer via RS485 indicating the volume setting equal to the selector position. If a selector is defined in the layout, the string to update the selector to position 5 would be:

T1U10020V5\n

Selectors in Sonata have several powerful programming features that reduce the number of modes, and hence programming time. Users should find selectors a very valuable tool in creating layout designs.