Creating A Toggle or Flip Flop
From A USP Keypress and GTP-32, DC20, or DC21

Revision 050913

This document describes how to use a single USP key press to select between two sources on a router destination, switch between A and B inputs on a 2x1 video switch, switch camera tally control between two studios, A and B.

Note- Throughout this document GTP-32 will be used to include the DC20 and DC21 products.

If we were using a push-on / push-off type switch, we would push it and it would stay in the down position. If we push it again, it would return to its up position.

When the switch is in its up position, it would switch the router to the "A" input, select the "A" input of the 2x1 video switch, switch camera tally control to the "A" studio. When the switch is in its down position, it would switch the router to the "B" input, select the "B" input of the 2x1 video switch, switch camera tally control to the "B" studio.

To create a push-on / push-off switch using a USP key and a GTP-32 we will use a USP Event Definition and a User Register.

Go to the USP Event Definition web page by clicking on Event Definitions and then USP Events. Now, click on ADD. You will see the following web page:

- Local Event Label must be unique on this unit and a maximum of 15 characters.

Local Event Label	IP Address	Event Type	Event #	Value	
		Keypress	1		Add Back

USP Event Definitions

Local Event Label	IP Address	Event Type	Event #	Value	Event Status

(The list of existing USP Event Definitions will be displayed here)

Enter an event label, ie: "Toggle_1", and the IP address of the USP. Select Event Type "Keypress Momentary"" and set Event to the USP key number. Click on "Add" to save your entry.   The USP Event Definitions Table will now show your entry.

Go to the User Register Configuration web page by clicking on Event Definitions, and then click on User Register Configuration. Now, click on "Edit". You will see the following web page:

- UR_ prefix is automatically added to the event label.

Save   Cancel

User Registers Table

User Register #	Label	Short Description	Long Description	Event Mode
1	UR_ UserReg1			Normal
2	UR_ UserReg2			Normal
3	UR_ UserReg3			Normal
4	UR_ UserReg4			Normal
5	UR_ UserReg5			Normal
6	UR_ UserReg6			Normal
7	UR_ UserReg7			Normal
8	UR_ UserReg8			Normal
9	UR_ UserReg9			Normal
10	UR_ UserReg10			Normal
11	UR_ UserReg11			Normal
12	UR_ UserReg12			Normal
13	UR_ UserReg13			Normal

Let's use User Register #5. Change the Label to "Toggle_1". Note that the complete label for this User Register will be "UR_Toggle_1".   In the Long Description cell, enter a description of how the User Register will be used. For example " When OFF, select "A". When ON, select "B". Set Event Mode to "Normal" so the User Register turns on and stays on, or turns off and stays off. Click on "Save" to save your entries.

Now, we will use UR_Toggle_1 to control one or more actions in the Event Monitoring Table.

Go to the Event Monitoring Table by clicking on "Event Monitoring" at the top of the web page. Now, click on "Add" to add new entries into the table. You will see the following web page:

- Assign source event to GPO.
- Source event may be local or remote event.
- For REMOTE EVENT, enter Source IP and Source Event Label.
- GPO may be any local GPO.
- Duplicate entries will not be saved!
- Available entries=1024
- Warning:Events in Pending State will not be processed! Click here to enable.

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Add Event to Channel Event Monitoring

Status:	Enabled
Source IP:	0.0.0.0
Source Event Type:	GPI
Source Event Label:	1: GPI_1
ON/OFF Type:	GPO Control
ON Function and Data:	Do Nothing / 1:GPO_1
OFF Function and Data:	Do Nothing / 1:GPO_1

Save & Exit   Save & Add   Done

First, we need to make the USP key "Toggle_1" toggle or flipflop UR_Toggle_1 on and off with each key press.

Click on Source Event Type down arrow and select "USP_Event". Give the web page a moment to refresh. Now, click on the Source Event Label down arrow and select "1:Toggle_1", the USP key. Click on the ON/OFF type down arrow and select "User Register Predefined". Wait a moment for the web page to refresh. Now, click on On Function column and select "Toggle User Register", then to the immediate right select from the drop down menu User Register "5:Toggle_1". Click on the OFF Function down arrow and select "Do Nothing". Click on "Save & Add" to save your entry and add another entry.

Now, the User Register UR_Toggle_1 will turn on then off with each USP key press.

DOING SOMETHING USEFUL WITH THE TOGGLE

Let's have UR_Toggle_1 trigger actions that select "A" or "B" of whatever is being controlled.

When UR_Toggle_1 is off, trigger an ON Function to select "A" GPO controlling a 2x1 video switch.

On the "Add Event to Channel Event Monitoring" web page, select Source Event Type "User Register".   Wait a moment for the web page to refresh. Now, click on the Source Event Label down arrow and select "5:UR_Toggle_1".

To control GPO #7, which selects the "A" side of the 2x1 video switch wihen it is off and the "B" side when it is on, do the following:

Select ON/OFF Type "GPO Control". Wait a moment for the web page to refresh. Click on the On Function and select "Turn On GPO". To the immediate right, click on the down arrow and select "5:GPO_5".   If you have relabeled "GPO_5", then your label will be displayed. Click on the OFF Function and select "Turn Off GPO". To the immediate right, select GPO_5.   Click on "Save & Add" to save your entry and add another, or "Save and Exit" to save your entry and exit.

Now, when UR_Toggle_1 turns ON, GPO_5 will turn on. When UR_Toggle_1 turns OFF, GPO_5 will turn OFF.

Change the ON/OFF Type to control a router, another User Register, or anything connected to the GTP-32.

Make multiple entries into the Event Monitoring Table so UR_Toggle_1 can control many devices. When UR_Toggle_1 is ON, all of the devices will be put into their "B" state and when UR_Toggle_1 is OFF, all of the devices will be put into their "A" state.

CONTROLLING THE TOGGLE FROM MULTIPLE USPs

The toggle can be controlled from two or more USP panels. Press a key on USP #1 to toggle UR_Toggle_1 from off to on and from on to off.   Press a key on USP #2 to toggle UR_Toggle_1.

Simply add another entry into the Event Monitoring Table that allows USP #2 key press to toggle UR_Toggle_1. (It is assumed that USP #2's key has already been assigned an Event Label in the USP Event Definition Table by following the steps on page 1.)

In the Event Monitoring Table, click on Add. Click on Source Event Type down arrow and select "USP_Event". Give the web page a moment to refresh. Now, click on the Source Event Label down arrow and select "1:Toggle_1", the USP key.   Click on the ON/OFF type down arrow and select "User Register Predefined". Wait a moment for the web page to refresh. Now, click on On Function column and select "Toggle User Register", then to the immediate right select from the drop down menu User Register "5:Toggle_1". Click on the OFF Function down arrow and select "Do Nothing". Click on "Save & Exit" to save your entry and exit.

Now, the User Register UR_Toggle_1 will turn on, then off with each USP key press whether from USP #1 or USP #2.