T470 User's Manual, Part C

AuxIR and Aux RS232 (Serial 2) Device support … V135

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Details

This manual covers the use of the "RES" pin in IR or RS232 mode on the JED T470. This can be set to an IR out mode in the "Config Utility" program. Set "IR Out" as the option in this mode.

Note: After V070 the RES pin can also send 0-5V RS232 for control of switchers, scalers, etc.

It is intended that IR outputs in "AuxIR" mode complement the RS232 drive to the main display device.

So an AuxIR signal can control a projector's screen, an audio processor (e.g. from Panasonic), an ancillary display, set top box, (e.g. a Wintal, a Healing or a Foxtel), or an external Switcher via 0-5V RS232.

Audio control: In the same way, T470 volume keys can feed Volume Up and Volume Down commands to a Panasonic, etc. audio controller while the rest of the keys can control a projector or LCD panel via RS232. A third AuxIR key might be allocated as a power On/Off for the Panasonic device.

Ancillary Display: This IR signal can also control an extra display device, and a key on the T470 can control power to an auxiliary panel, or even select sources on it. In a church, the main congregation can watch a projected display controlled via RS232, and an extra key via AuxIR can turn on a smaller LCD display visible to the choir.

Set Top Boxes: Thus it is useful when an RS232 controlled projector or LCD/Plasma panel is to have a set top box (STB) TV tuner as an input, and for that STB TV channel to be stepped up or down from the JED T470 using a couple of specially setup keys (called "TV Channel Up" and "TV Channel Down"). In this application, a "TV" key should be provided from the source keys to set the LCD panel/projector to, say, an HDMI or a Composite Video connected to the STD output. (One could also allocate an AuxIR "Power" key for the STB, to toggle its power on and off, although this is not necessary: the STD boxes restart in "On" mode on the previous active channel if the power cycles.)

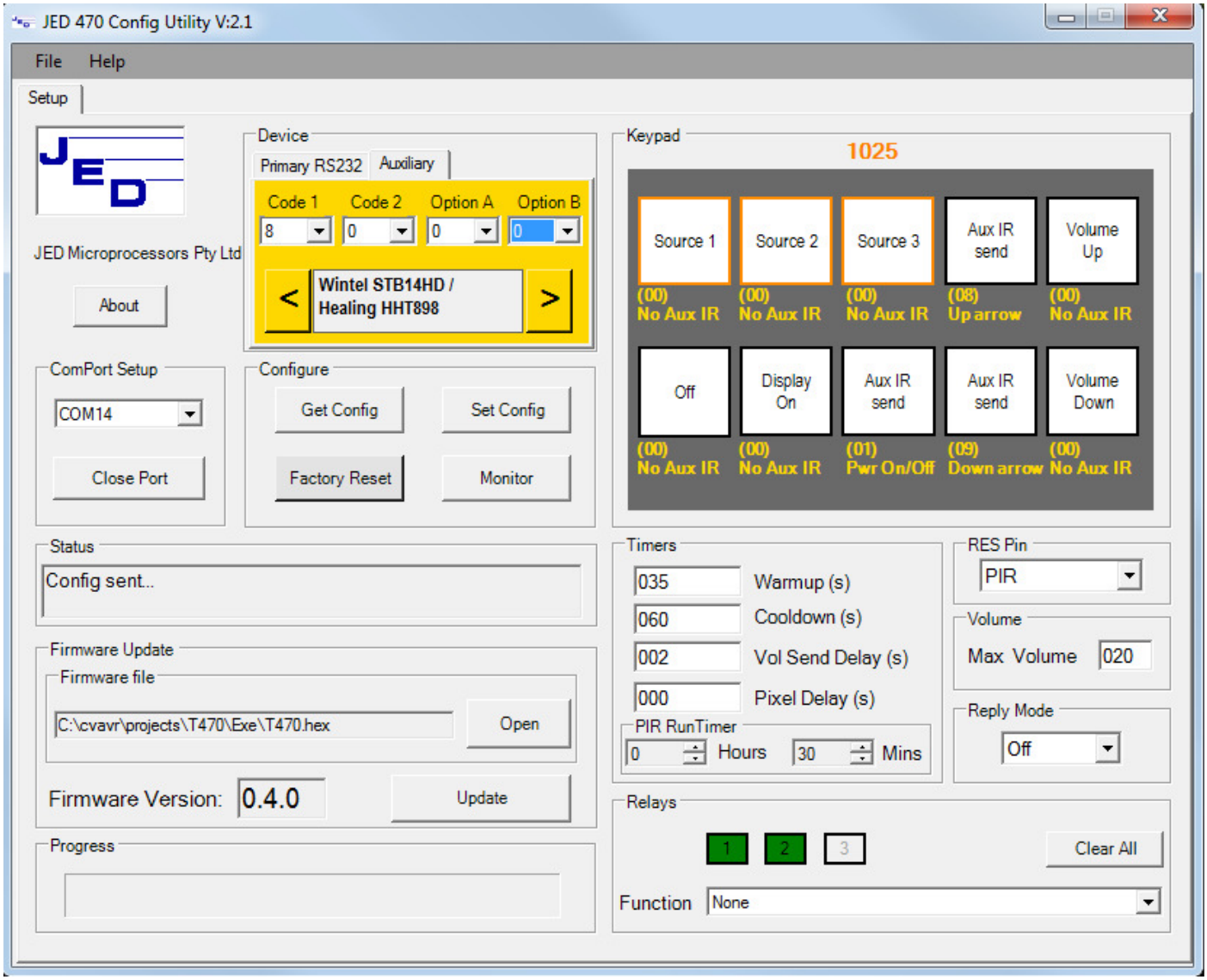
Switchers: These can be connected via 0-5V RS232 to allow the T470 to select one input on the projector or LCD and then "Source Keys" can select between multiple inputs on a switcher.

AuxIR setup: The AuxIR device selection is set in the same way as the Display Device, using the Config Utility "Device – Auxillary Tab". The selection is also a 4-digit code, which can be entered digit by digit or by using Inc. and Dec. buttons. The ID of the selected device is shown in the window below the 4-digit code entry. **Aux IR commands can be setup for any key, although usually they would be only allocated for keys coded as "Aux IR send".** (It would be possible to send an Aux IR signal, e.g. to turn on a set top box, with a "TV" labelled source key, however, every key NOT being used for Aux IR MUST be set to "(00) No Aux IR". Do not use the "None" selection for this.

Obviously, a keyboard with AuxIR key allocations must be used. These AuxIR keys are then allocated a function in the same way sources were allocated to source keys of the display device. The "RES Pin" must be set to "IR Out".

Note: A debug mode is built into the Configuration Utility: If the RES pin is temporally set to PIR mode, and the Monitor mode is activated, the T470 will put out debug messages for the AuxIR system consisting of the IR format

and all the bytes in hex of the IR code being set out on the IR LED. This allows comparison for correctness with the codes in the tables below, as well as Device codes, etc. Don’t forget to set it back to IR after using this debug mode.)



This is an example of an Aux IR setup screen selecting a Wintel / Healing set top box and allocating the three “Aux IR Send keys for TV channel up and down (just to the left of the volume keys) and the Power On/Off toggle (centre of lower row).

Note how keys unused for Aux IR are all set to “(00) No Aux IR”, to disable IR for those keys.

(This shows the RES pin set for PIR, i.e. to enable the debug display mode. Set the to “IR Out” for final release after checking.)

In the monitor mode, the display is:

```
15:36:41.886 - AuxModIR:NEC1(hex):80 ff 0a f5
15:36:44.460 - AuxModIR:NEC1(hex):80 ff 01 fe
15:36:47.331 - AuxModIR:NEC1(hex):80 ff 00 ff
```

showing the codes sent for Power On/Off, Down arrow and Up arrow respectively for this Aux device. (In this example, “80 ff” is the device code, “0a” is the command, and “f5” is the complement of the “0a” command.)

Panasonic Audio Code 2000

This device controls audio via IR, and needs three AuxIR keys allocated. The volume keys are allocated as "AutoIncrement" so the key can be held down and so send a stream of volume inc/dec commands. A third AuxIR key needs to be allocated for Power On/Off.

Device code "02h 20h" is assumed, and AuxIRDevice code, 0A0h are first three bytes of a 48 bit data message sent at 38kHz using the standard Panasonic format. Next are two code bytes (as below) and then a final byte which is an exclusive OR checksum of the AuxIRDevice code and the two Function codes.

Number	AuxIRFunction	Code sent	Comments
00	No Aux IR	No code … set all non-Aux IR keys to this value	
01	Power On/Off	00h 03Dh	Toggle power key
02	Volume Up	00h 020H	Use an auto-inc key
02	Volume Down	00h 021h	Use an auto-inc key

Soniq LCD TV Code 3000

This device controls audio via IR, and needs three AuxIR keys allocated. The volume keys are allocated as "AutoIncrement" so the key can be held down and so send a stream of volume inc/dec commands. A third AuxIR key needs to be allocated for Power On/Off.

A display like this can be used in a number of ways as an AuxIR controlled device:

- If it is used as an auxiliary display always set to one source channel, and no audio via this display, only one key needs to be allocated, a power on/power off toggle key using AuxIRFunction 00. Set up the source channel using the hand-held remote. Organise audio via the main display (using keys allocated a volume up/down keys) or have audio controlled externally e.g. via a mixing desk;
- If it is used as an auxiliary display always set to various source channels, several additional keys need to be allocated. These are the "Source" key, the "Up/Down arrow" keys and the "OK" key;
- Audio keys can be used if necessary; or
- Fuller functionality can be achieved by allocating keys for the Up/Down/Left/Right keys, the Menu and the Ok and Exit keys.

Device code "72h DDh" is assumed, and a 32 bit data message is sent at 38kHz, using the generic "NEC" format. The Code below is the third byte, and the code is send again, inverted as the 4th byte.

Number	AuxIRFunction	Code sent	Comments
00	No Aux IR	No code … set all non-Aux IR keys to this value	
01	Power On/Off	00Ch	Toggle power key
03	Volume Up	049h	Use an auto-inc key
04	Volume Down	043h	Use an auto-inc key
05	Channel Up	051h	TV channel
06	Channel Down	04Dh	TV channel
08	Up Arrow	044h	
09	Down Arrow	01Dh	
0A	Left arrow	01Ch	
0B	Right arrow	048h	
0C	OK Enter	05Ch	
0D	Menu	003h	
0E	Exit	05Dh	
0F	Mute	01Ah	Toggle
18	Source	01Eh	Use with up/down arrows and OK to select sources.

Foxtel IQ2 Set Top Box Code 6000

In simple applications, this device just needs Up and Down TV channel keys allocated on the T470 keyboard.

If it is used infrequently or (e.g. to save power) it needs to be placed into standby between uses) a Power On/Off toggle key can be allocated. It always powers up on the channel being used before standby. Rebooting after standby takes a few seconds, which could annoy users.

Full functionality can be achieved by allocating other keys, e.g. menu, arrow and the "Select" function to T470 keys.

Audio level keys can also be allocated on this STB, or this could be left at a set level to be controlled via the display device volume "21h 0Ah 026h" is assumed, and a 32 bit data message is sent at 36kHz using the Philips RC-MM format. The Code below is the 4th byte. Two bits are sent by width-modulating the inter-pulse period.

Number	AuxIRFunction	Code sent	Comments
00	No Aux IR	No code … set all non-Aux IR keys to this value	
01	Power On/Off	00Ch	Toggle power key
03	Volume Up	010h	Use an auto-inc key
04	Volume Down	011h	Use an auto-inc key
05	Channel Up	020h	TV channel
06	Channel Down	021h	TV channel
08	Up Arrow	058h	
09	Down Arrow	059h	
0A	Left arrow	05Ah	
0B	Right arrow	05Bh	
0C	Select	05Ch	OK
0D	Setup	054h	menu
0E	Back	083H	Exit
0F	Mute	00Dh	Toggle
18	Foxtel	04Eh	
19	AV	038h	

Healing Set Top Box HTT894 Code 7F00

In simple applications, this device just needs Up and Down TV channel keys allocated on the T470 keyboard.

If it is used infrequently, or, (e.g. to save power) it needs to be placed into standby between uses) a Power On/Off toggle key can be allocated. It always powers up on the channel being used before standby. Rebooting after standby takes a few seconds, which could annoy users.

Full functionality can be achieved by allocating other keys, e.g. menu, arrow and the "OK" function to T470 keys.

Audio level keys can also be allocated on this STB, or this could be left at a set level to be controlled via the display device volume controls.

Device code "01h F6h" is assumed, and a 32 bit data message is sent at 38kHz using the generic "NEC" format. The Code below is the third byte, and the code is send again, inverted as the 4th byte.

Number	AuxIRFunction	Code sent	Comments
00	No Aux IR	No code … set all non-Aux IR keys to this value	
01	Power On/Off	012h	Toggle power key
08	Up / Ch Up	01Bh	Same code for CH+ and Up Arrow
09	Dn / Ch Dn	01Fh	Same code for CH- and Down Arrow
0A	Lft Vol Dn	01Eh	Same code for VOL- and Left Arrow
0B	Rgt Vol Up	01Ah	Same code for VOL+ and Right Arrow
0C	OK Enter	05Bh	
0D	Menu	016h	
0E	Exit	015h	
0F	Mute	010h	Toggle
18	TV/R	040h	Toggle

Laser STB-8000 Code 7F05

Uses NEC1 IR with device code 01FE

Linsar STB Code 7F10

Uses NEC1 IR with device code 00BF

Pro2 4S18G HDMI Switcher Code 7F20

This is a low cost 4 way HDMI switcher with IR control only and uses the NEC1 Repeat Protocol

Number	AuxIRFunction	Code sent	Comments
00	No Aux IR	No code … set all non-Aux IR keys to this value	
01	Power On/Off	00h	Toggle power key
03	Input 1	04h	HDMI 1
04	Input 2	05h	HDMI 2
05	Input 3	06h	HDMI 3
06	Input 4	08h	HDMI 4

Dynalink STB Code 7F30

IR control A2856A Set Top Box from Altronics that uses the NEC1 Protocol

Number	AuxIRFunction	Code sent	Comments
00	No Aux IR	No code … set all non-Aux IR keys to this value	
01	Power On/Off	59h	Toggle power key
03	Vol Up	1Bh	
04	Vol Down	5Ah	
05	Channel Up	06h	
06	Channel Down	16h	
12	Ok/Enter	1Ah	
13	Menu	45h	
14	Exit	05h	
15	Mute	19h	
18	TV/Radio	15h	

Strong Set Top Box SRT5432/34/37 SRT5432 Code 7F80, SRT5434 Code 7F81, SRT5437 Code7F82

In simple applications, this device just needs Up and Down TV channel keys allocated on the T470 keyboard.

If it is used infrequently, or (e.g. to save power) it needs to be placed into standby between uses) a Power On/Off toggle key can be allocated. It always powers up on the channel being used before standby. Rebooting after standby takes a few seconds, which could annoy users.

Full functionality can be achieved by allocating other keys, e.g. menu, arrow and the "OK" function to T470 keys.

Audio level keys can also be allocated on this STB, or this could be left at a set level to be controlled via the display device volume controls.

SRT 5432 Device code "01h FDh" , SRT5434 "01h FEh" is assumed, and a 32 bit data message is sent at 38kHz using the generic "NEC" format. The Code below is the third byte, and the code is send again, inverted as the 4th byte.

Number	AuxIRFunction	Code sent	Comments
00	No Aux IR	No code … set all non-Aux IR keys to this value	
01	Power On/Off	0DCh	Toggle power key
03	Volume Up	09Dh	Use an auto-inc key
04	Volume Down	0DDh	Use an auto-inc key
05	Channel Up	0D0h	TV channel
06	Channel Down	0CCh	TV channel
08	Up Arrow	0DEh	
09	Down Arrow	0D6h	
0A	Left arrow	0DBh	
0B	Right arrow	0D8h	
0C	OK Enter	0DAh	
0D	Menu	0D4h	
0E	Exit	0D7h	
0F	Mute	08Bh	Toggle
18	TV/Radio	089h	TV/Radio toggle

Wintal STB14HD / Healing Set Top Box HTT898 Code 8000

In simple applications, this device just needs Up and Down TV channel keys allocated on the T470 keyboard.

If it is used infrequently, or (e.g. to save power) it needs to be placed into standby between uses) a Power On/Off toggle key can be allocated. It always powers up on the channel being used before standby. Rebooting after standby takes a few seconds, which could annoy users.

Full functionality can be achieved by allocating other keys, e.g. menu, arrow and the "OK" function to T470 keys.

Audio level keys can also be allocated on this STB, or this could be left at a set level to be controlled via the display device volume controls.

Device code "80h FFh" is assumed, and a 32 bit data message is sent at 38kHz using the generic "NEC" format. The Code below is the third byte, and the code is send again, inverted as the 4th byte.

Number	AuxIRFunction	Code sent	Comments
00	No Aux IR	No code … set all non-Aux IR keys to this value	
01	Power On/Off	00Ah	Toggle power key
08	Up arrow	000h	Same code for CH+ and Up Arrow
09	Down arrow	001h	Same code for CH- and Down Arrow
0A	Left arrow	003h	Same code for VOL- and Left Arrow
0B	Right arrow	002h	Same code for VOL+ and Right Arrow
0C	OK Enter	01Fh	
0D	Menu	01Ah	
0E	Exit	01Ch	
0F	Mute	00Dh	Toggle
18	TV/USB	00Ch	Toggle

Yamaha AV Receiver Code 8300

Device code “7Ah FFh” is assumed, and a 32 bit data message is sent at 38kHz using the generic “NEC” format. The Code below is the third byte, and the code is send again, inverted as the 4th byte.

Number	AuxIRFunction	Code sent	Comments
00	No Aux IR	No code … set all non-Aux IR keys to this value	
01	Power On/Off	000h	Toggle power key
03	Vol up	01Ah	
09	Vol Down	01Bh	
0A	HDMI 1	047h	
0B	HDMI 2	04Ah	
0C	AV1	053h	

Serial 2 communications to a serial-controlled switcher etc: Code 9000 up

0->5V TTL level signals can send an acceptable serial data stream to a serial controlled switcher from the RES pin. (Still select it as “IR Out in the RES pin window). Codes above 9000 hex assume RS232. Set “db AuxMode, Serial2” to select this mode in place of IR aux mode.

Serial baud rates from1200 to 115200 can be selected. (db Serial2BaudRate, S2B9600; etc selects this.)

32 Messages can be sent of up to 16 bytes length (plus one byte of length data).

If a keyboard has an “Aux auto-repeat send” selected, the key repeats the message at a default rate of 330ms. This can be set, eg: “db AuxAutoIncDelay, 40” ; default time =25 by 10 plus 85=335ms. 40 will give 485ms. This is useful for inc/dec volume keys for the switcher.

Code 9000 is a demo mode which tests all string setups.

JED 439 USB 2Ch Switcher Code B000

Set code 01, “Idle” to the OFF key so USB switcher disconnects all channel when Off pressed

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Idle	':R160',0dH, 0aH	Turns off all USB channels
02	USB Ch A	':R161',0dH, 0aH	Selects USB Channel A
03	USB Ch B	':R171',0dH, 0aH	Selects USB Channel B

JED 443 USB 3Ch Switcher Code B100

Set code 01, “Idle” to the OFF key so USB switcher disconnects all channel when Off pressed

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Idle	':R150',0dH, 0aH	Turns off all USB channels
02	USB Ch A	':R151',0dH, 0aH	Selects USB Channel A
03	USB Ch B	':R161',0dH, 0aH	Selects USB Channel B
03	USB Ch C	':R171',0dH, 0aH	Selects USB Channel C

Kramer VP-400, VP-440H2 Switcher Protocol 3000 Code C000 9600baud

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power Off	'#STANDBY 0',0dH	
02	Power On	'#STANDBY 1',0dH	
03	HDMI 1	'#ROUTE 12,1,0',0dH	
04	HDMI 2	'#ROUTE 12,1,1',0dH	
05	HDMI 3	'#ROUTE 12,1,2',0dH	
06	HDMI 4	'#ROUTE 12,1,3',0dH	
09	PC 1	'#ROUTE 12,1,4',0dH	DB15
0A	PC 2	'#ROUTE 12,1,5',0dH	DB15
0B	Alt HDMI 1	‘#ROUTE 1,1,0',0dH	
0C	Alt HDMI 2	'#ROUTE 1,1,1',0dH	
0D	Alt HDMI 2	'#ROUTE 1,1,2',0dH	
0E	HDBaseT	'#ROUTE 1,1,3',0dH;	
0F	Alt PC In	'#ROUTE 1,1,4',0dH	
10	Audio volume inc	'#AUD-LVL 1,0,++',0dH	Autorepeat can be used
11	Audio volume dec	'#AUD-LVL 1,0,--',0dH	Autorepeat can be used

Kramer VS-81 HDMI Switcher Protocol 2000 Code C100

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	HDMI 1	01H, 81H, 81H, 81H	
02	HDMI 2	01H, 82H, 81H, 81H	
03	HDMI 3	01H, 83H, 81H, 81H	
04	HDMI 4	01H, 84H, 81H, 81H	
05	HDMI 5	01H, 85H, 81H, 81H	
06	HDMI 6	01H, 86H, 81H, 81H	

07	HDMI 7	01H, 87H, 81H, 81H	
08	HDMI 8	01H, 88H, 81H, 81H	

Kramer DIP-20 Protocol 3000 Code C101 115200 baud

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01			
02			
03	HDMI 1	'#ROUTE 1,1,1',0dH	
04	HDMI 2	'#ROUTE 1,1,2',0dH	
05	VGA	'#ROUTE 1,1,3',0dH	
10	Audio volume inc	'#AUD-LVL 1,1,++',0dH	Autorepeat can be used
11	Audio volume dec	'#AUD-LVL 1,1,--',0dH	Autorepeat can be used

Kramer VP-773 Code C102

Requires VP773 to be configured for Legacy protocol control at 9600 (set using Kramer remote ctrl – menu button)

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power Off	'Y 0 38 0',0dH	
02	Power On	'Y 0 38 1',0dH	
03	HDMI 1	' Y 0 120 13',0Dh	
04	HDMI 2	' Y 0 120 14',0Dh	
05	HDMI 3	' Y 0 120 10',0Dh	
06	HDMI 4	' Y 0 120 15',0Dh	
07	PC 1	' Y 0 120 11',0Dh	DB15
08	PC 2	' Y 0 120 12',0Dh	DB15
09	Video	‘Y 0 120 9',0Dh	Video
0A	Display Port	' Y 0 120 16',0Dh	DP

Altronics 4x HDMI switcher Code C150

Set Baud rate to 19200 in switcher,

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
03	HDMI 1	IN1!	
04	HDMI 2	IN2!	
05	HDMI 3	IN3!	
06	HDMI 4	IN4!	

Atlona Juno 451 HDMI switcher Code C300, C302

Set Baud rate to 9600 in switcher, Code C302 uses 115200baud

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power Off	PWOFF<0D>	
02	Power On	PWON<0D>	
03	HDMI 1	x1AVx1<0D>	
04	HDMI 2	X2AVx1<0D>	
05	HDMI 3	X3AVx1<0D>	
06	HDMI 4	X4AVx1<0D>	
07	HDMI 5	X5AVx1<0D>	
10	Vol Up	VOUT1 +<0D>	
11	Vol Down	VOUT1 -<0D>	

Atlona HDVS HDMI switcher Code C301

Set Baud rate to 9600 in switcher

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power Off	PWOFF<0D>	
02	Power On	PWON<0D>	
03	HDMI 1	Input HDMI1<0D>	
04	HDMI 2	Input HDMI2<0D>	
05	VGA	Input VGA<0D>	

Atlona HDVS Camera Code C303

Baud rate 9600

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power Off	81H,01H,04H,00H,03H,0FFH	
02	Power On	81H,01H,04H,00H,02H,0FFH	

AV Gear DSS61 Code C320

Baud rate 9600

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power Off	50797%	
02	Power On	50697%	
03	HDMI 1	50701%	
04	HDMI 2	50702%	
05	HDMI 3	50703%	
06	HDMI 4	50704%	
07	VGA 1	50705%	
08	VGA 2	50706%	

AV Gear MA2 Amplifier Code C321

Baud rate 9600

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power Off	50797%	
02	Power On	50697%	
03	Input 1	1A1.	
04	Input 2	2A1.	
05	Input 3	3A1.	
06	Vol Up 1	601%	
07	Vol Dn 1	602%	
08	Vol Up 3	610%	
09	Vol Dn 3	601%	

Aten VS482 HDMI switcher Code C350

Baud rate 19200

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power Off	standby on<0D>	
02	Power On	standby off<0D>	
03	HDMI 1	sw i01<0D>	
04	HDMI 2	sw i02<0D>	
05	HDMI 3	sw i03<0D>	
06	HDMI 4	sw i04<0D>	
07			
08			

Bluestream MFP72 Code C355

57600 baud N81

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power Off	POFF',0dH	
02	Power On	PON',0dH	
03	HDMI 1	OUT00FR01',0dH	
04	HDMI 2	OUT00FR02',0dH	
05	HDMI 3	OUT00FR03',0dH	
06	HDMI 4	OUT00FR04',0d	
07	VGA	OUT02FRVGA',0dH	
08	Video	OUT02FRAV',0dH	
	VOL+	VOL+TX00',0dH	
	VOL-	VOL-TX00',0dH	

Clean Digital Switcher WUH4A Code C370

9600 baud N81

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01			
02			
03	HDMI 1	>>HDMI1 <0D><0A>	
04	HDMI 2	>>HDMI2 <0D><0A>	
05	HDMI 3	>>HDMI3 <0D><0A>	
06	HDMI 4	>>HDMI4 <0D><0A>	
07	Manual Mode	>>MANUAL <0D><0A>	

Extron MVC121 Code C356

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
10	Volume Inc	+V	
11	Volume Dec	-V	

Gefen EXT-UHDV-HBTLS-TX Switcher Code C358

9600 baud N81

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power On	#POWER 1 <cr>	
02	Power OFF	#POWER 0 <cr>	
03	VGA	V V<cr>	VGA
04	HDMI	V H<cr>	HDMI

Marantz Amplifier SR5013 Code C360

9600 baud N81 P3=RX, P2=TX, P5=GND

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power On	PWON <cr>	
02	Power OFF	PWSTANDBY<cr>	
03	SAT/CBL	SISAT/CBL<cr>	HDMI 1
04	DVD	SIDVD<cr>	HDMI 2
05	Blu-Ray	SIBD<cr>	HDMI 3
06	Game	SIGAME<cr>	HDMI 4
07	Media player	SIMPLAY<cr>	HDMI 5
08	Aux 2	SIAUX2<cr>	HDMI 6
09	CD	SIACD<cr>	HDMI 7
10	Volume Inc	MVUP<cr>	
11	Volume Dec	MVDOWN<cr>	

MA IA40 Amplifier Code C362

Baud 115200

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power Off	AOFF<0D>	
02	Power On	AON<0D>	
03	Vol Up 1	UV1<0D>	
04	Vol Dn 1	DV1<0D>	
05	Vol Up 5	UV5<0D>	
06	Vol Dn 5	DV5<0D>	

Pro2 HD41QMV Code C364

9600 baud N81

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power Off	PWR0<0D>	
02	Power On	PWR1<0D>	
03	HDMI 1	SWV1<0D>	HDMI 1
04	HDMI 2	SWV2<0D>	HDMI 2
05	HDMI 3	SWV3<0D>	HDMI 3
06	HDMI 4	SWV4<0D>	HDMI 4

Wyrestorm MXV0404 Code C365

9600 baud N81

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power Off	STANDBY<0D><0A>	
02	Power On	WAKE<0D><0A>	
03	HDMI 1	SET SW hdmiin1 all<0D><0A>	HDMI 1
04	HDMI 2	SET SW hdmiin2 all<0D><0A>	HDMI 2
05	HDMI 3	SET SW hdmiin3 all<0D><0A>	HDMI 3
06	HDMI 4	SET SW hdmiin4 all<0D><0A>	HDMI 4

PTN SC51T Code C390

9600 baud N81

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power On	50697%	
02	Power OFF	50797%	
03	HDMI 1	50701%	HDMI 1
04	HDMI 2	50702%	HDMI 2
05	HDMI 3	50703%	HDMI 3
06	VGA 1/Display Port	50704%	Display port on SC51TS
07	VGA 2	50705%	
08	Volume Up	50602%	
09	Volume Down	50603%	

Philips BDL Panels Code C380

Baud 9600 N81

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power Off	06H, 01H, 01H, 18H, 01H, 1FH	
02	Power ON	06H, 01H, 01H, 18H, 02H, 1CH	
03	VGA	09H, 01H, 01H, 0ACH, 05H, 05H, 01H, 00H, 0A4H	VGA
04	HDMI 1	09H, 01H, 01H, 0ACH, 0DH, 0DH, 01H, 00H, 0A4H	HDMI 1
05	HDMI 2	09H, 01H, 01H, 0ACH, 06H, 06H, 01H, 00H, 0A4H	HDMI 2

Sony Bravia KDL Panels Code C385

Baud 9600 N81

Panel will require Standby Enable sent manually

Number	Aux Ser2 Function	Code sent	Comments
00	No Ser 2	No code … set all non-Aux keys to this value	
01	Power Off	8CH, 00H, 00H, 02H, 00H, 8EH	
02	Power ON	8CH, 00H, 00H, 02H, 01H, 8FH	
03	Video	08CH,000H,002H,003H,002H,001H,094H	Video
04	HDMI 1	08CH,000H,002H,003H,004H,001H,096H	HDMI 1
05	HDMI 2	08CH,000H,002H,003H,004H,002H,097H	HDMI 2