Thank you for purchasing a Screen Technics Projection Screen, please ensure that you read the following instructions fully before attempting to install this product.

MOUNTING INSTRUCTIONS

The ElectriCinema Case D is supplied with 8 Tee Nuts placed in the top rails with 8 x 230Kgs vertical load rated M10 eyebolts.

Warning

A minimum of 6 tee nuts (3 in each rail) must be used to attach the ElectriCinema Case D to the hanging points or other mounting solution. Screen Technics has some other bracket solutions. Please contact the office for further information.
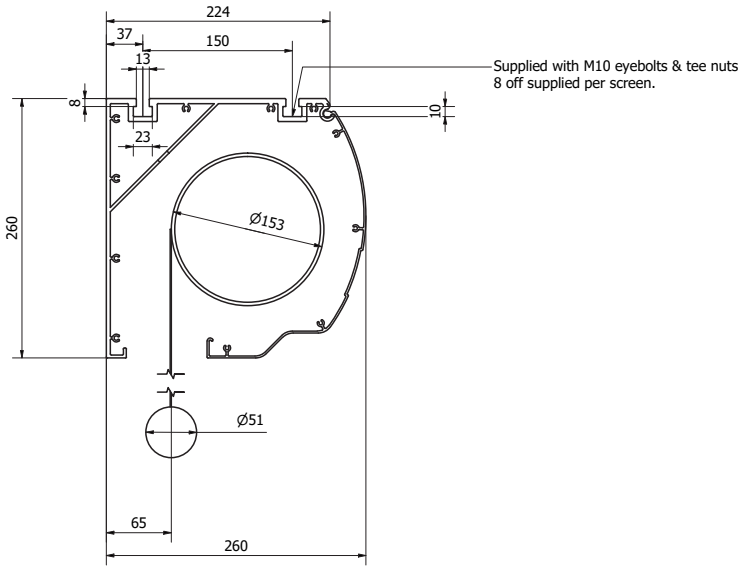
Tee nuts slide within the Tee nut channel to allow for various hanging point locations. The extreme left and extreme right of the canister must have a pair of eye bolts no more than 600mm inboard from the end of the canister.

When installing the eyebolts, it is critical to ensure the eyebolt thread face contacts the projection screen canister.
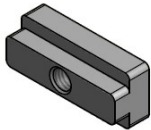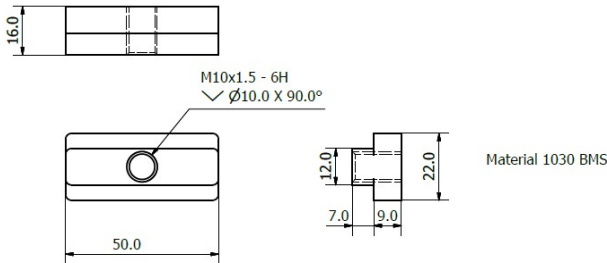
The ElectriCinema Case D must be installed level in both planes (vertical and horizontal); failure to install level may damage the projection surface.

Note: Tape holding the bottom slat rod bar for transit must be removed before operating the Electricinema Case D; failure to release the bottom slat rod bar will cause damage to the surface if rolled down.

CANISTER SIDE VIEW

Supplied with M10 eyebolts & tee nuts
8 off supplied per screen.

TEE NUT DETAILS

M10x1.5 - 6H
⌵ Ø10.0 X 90.0°

Material 1030 BMS

SCREEN TECHNICS
Engineered to Perform

AUSTRALIA
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NEW ZEALAND
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SCREEN TECHNICS ESTABLISHED IN 1990

PROUDLY BUILT IN AUSTRALIA

## LIMIT SETTING FOR CONNECT ELECTRICINEMA IP SCREENS

The following instructions are for the adjustment of the limit switches that alter the upper and lower stop positions on "Connect" IP ElectriCinema Case D screens only

WHERE ARE THE LIMIT SWITCHES?
(On the Left Hand Side).
One switch is accessible through the slat rod opening and the other is behind a rubber grommet towards the front of the canister.

Limits shown with projection screen case front removed
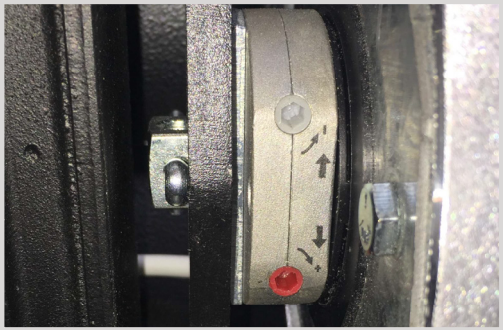
WHICH SWITCH IS FOR UP AND DOWN?
Down / bottom (white) switch - Accessible through the grommet hole on the projection screen case.
Up / top switch (red) switch - Accessible through the slat rod opening on the projection screen case.

WHAT TOOLS DO I NEED?
Either the limit setting tool (supplied), a narrow tip screw driver (less than 4mm) or a 4mm Allen Key

WHICH WAY DO I TURN THE SWITCH?
Clockwise always increases the amount of rotation (travel) of the motor.
Anti-clockwise always reduces the amount of rotation (travel) of the motor.
So pick the switch responsible for the limit position, up or down. Clockwise turning of the switch will always let the motor travel further in that direction. Anti-clockwise turning of the switch will lessen the amount of travel in that direction.

CAN I ADJUST THE SWITCH WHILE THE SCREEN IS SITTING ON THE LIMIT - IE FULLY UP OR DOWN?
Clockwise adjustment? – YES. But it is better to back the screen away from the limit and then adjust
Anti-clockwise adjustment? - NO you will damage the micro switch if you turn it anti-clockwise while the screen is sitting on the limit. Never attempt this. You must back the screen away from the limit before adjustment. After adjustment you will need to run the screen up and down to pick up the new limit

WILL I VOID THE PRODUCT WARRANTY IF I DAMAGE THE SCREEN WHILST MAKING THESE ADJUSTMENTS?
YES.!!!

BEWARE
ROLLERS SCREENS HAVE A FINITE AMOUNT OF LEADER, THE STANDARD BEING 300MM.

IF YOU ORDER A CUSTOM LEADER LENGTH THEN THAT BECOMES THE FINITE AMOUNT.

DO NOT ADJUST THE BOTTOM LIMIT SO AS TO EXPOSE MORE THAN THIS FINITE AMOUNT

IF YOU DO YOU WILL:
EXPERIENCE POOR LAYFLAT OF THE SURFACE WHICH MAY BRING COMPLAINTS FROM YOUR CUSTOMER.
WEAKEN THE HOLD OF THE SURFACE ON THE ROLLER AND, ONE DAY, THE SURFACE WILL BE ON THE FLOOR.

THIS IS NOT COVERED UNDER WARRANTY.

ALWAYS ENSURE THAT YOU CAN REMOVE THE SCREEN FOR MAINTENANCE OR REPAIR IF REQUIRED. DO NOT SHEET IT IN PLACE.

Should you have any questions regarding the installation of our products please call our sales desk on +61 2 4869 2100 for assistance

CONTROL INPUT DIAGRAM

Both Control and Power Module are on the left; inputs are accessible by removing the small cover.
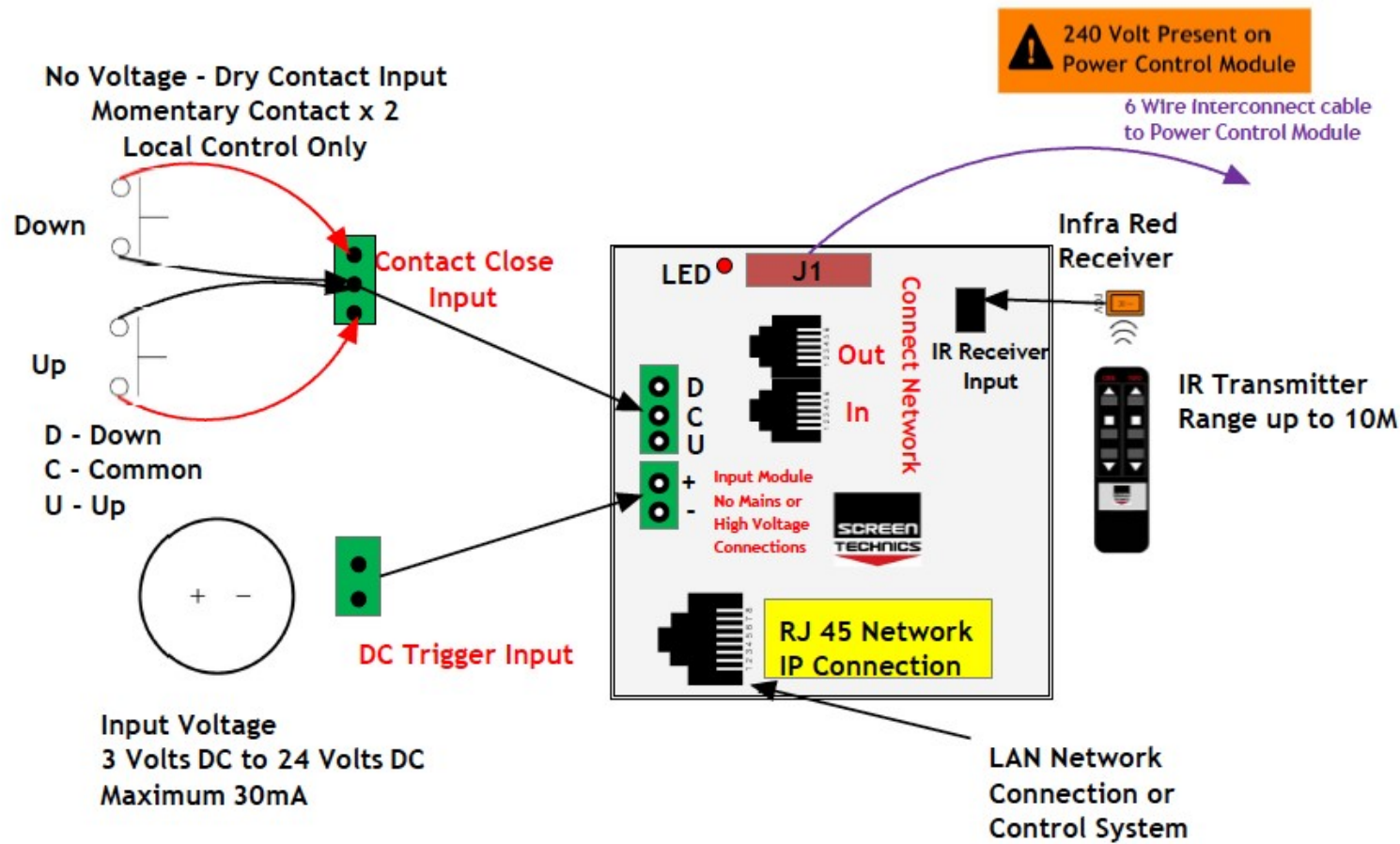
1. CONTACT CLOSE INPUT
- Contact Close Input for local control
- Requires 2 x Momentary contacts duration minimum 50 milliseconds
- Dedicated contact for Up & Down
- Stop command is close opposite travel contact or both Up & Down together

2. DC TRIGGER INPUT
- Down command is sent when a DC Voltage of 3 Volts @ 1mA minimum is applied to input, a Up command is sent
- Up command is sent when a DC Voltage of less than 1.0 Volts DC @ 1mA is applied to input, a Down command is sent
- Maximum cable length 75 meters approximately based 24 AWG gauge cable

3. CONNECT NETWORK

- Connect Network uses a RJ11 6P6C Plug 6 core wired straight through
- 50 Meter maximum cable length between modules
- Connect network carries commands when connected to other Connect Modules
- Maximum of 8 Modules Total, including Connect IP module

4. INFRA-RED INPUT

- Supplied with 2 channel IR transmitter
- Supplied with IR receiver with 300mm and 1.2M input lead
- IR operates on Group 1 & 2 as standard

5. RJ45 LAN INPUT

- DHCP or Static IP addressable
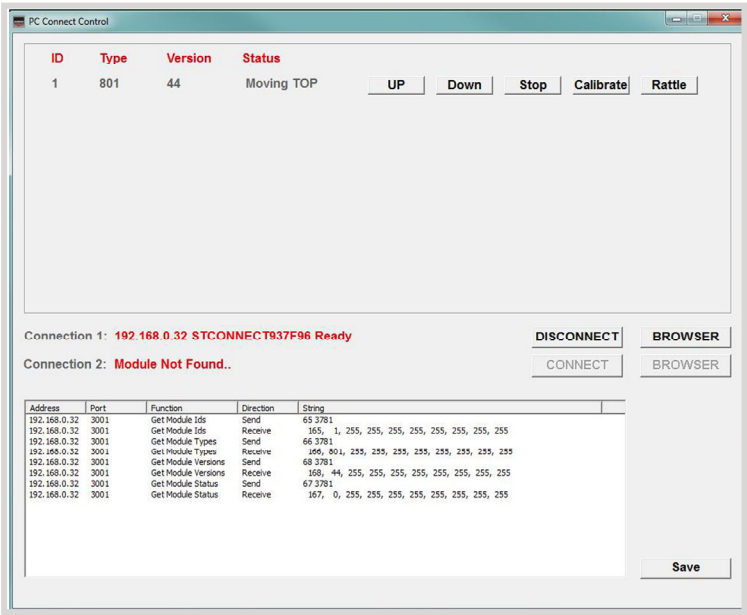- Internal Web Browser
- TCP/IP controllable

6. PC OR MAC CONNECT SOFTWARE

- As the module is DHCP default, this software will allow simple operation and identification of IP address and port number of IP connect modules on network
- PC Connect software will search for Connect IP Modules on the network
- Screen shot below showing module, IP address using PC Connect
- Connect to module

The PC Connect / Mac Connect software is found on our web site: screentechnics.com.au and can be accessed through the DOWNLOAD menu.
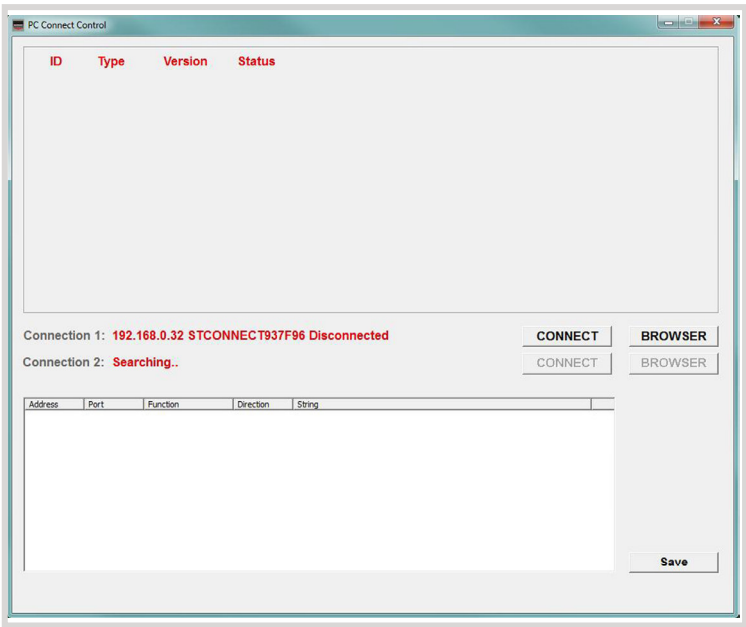
- Screen shot below of module connected
- Allows operation of module via simple control
- When command is sent – string showing command, IP address, Port number and feedback response is shown in the box below

- Click on Web Page button and via a web browser you are now connected to the actual Connect module directly. This page also has basic control.

- Click on login to view advanced settings page

7. ALTERNATE CONNECTION VIA WEB BROWSER

- Connect to the module using the IP address via a web browser.
- Type IP address as shown in PC Connect software into the browser.
- Connect to the basic control and advanced login screen.
- Default Input User Name : Admin
- Password : Connect
- Both the User Name and Password are changeable in software if required.

8. DIRECT CONTROL

- Login will default take you to this page.
- Direct Control Screen shown below.
- Note that Partial 1 & 2 buttons on this page act as stop commands unless the partials have been set in programming.
- The MAF address (physical location in Connect network of up to 9) and Module ID (same as MAF unless changed in programing) is shown.
- Simple control operation for test set-up.
- Status indication of screen – use refresh to obtain latest status update.
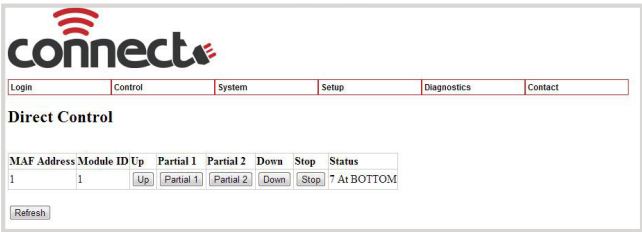
9. GROUP CONTROL

- Select the Control tab and use dropdown box to choose Group Control.
- Control Screens that have been programmed with the same IR group or switch group (contact Close input)
- Partial 1 & 2 act as stop command unless partial has been programmed
- Simple control feature
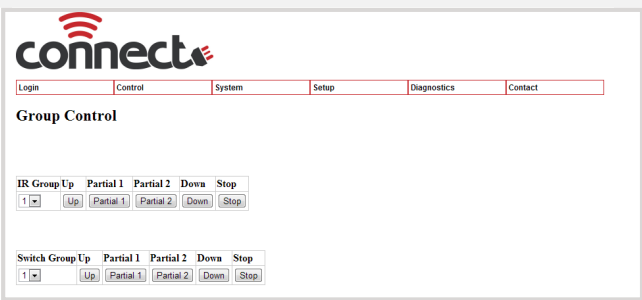
10. IP CONTROL SETTINGS

- Access settings via set up tab
- Setting of static IP address
- Mac address set up (If replacing on network)

- Current IP operating parameters
- AMX Discoverable enable
- Screen Technics Beacon
- Simple control page
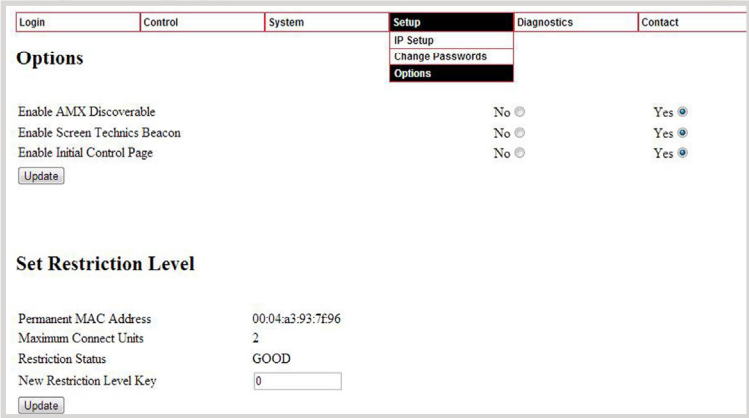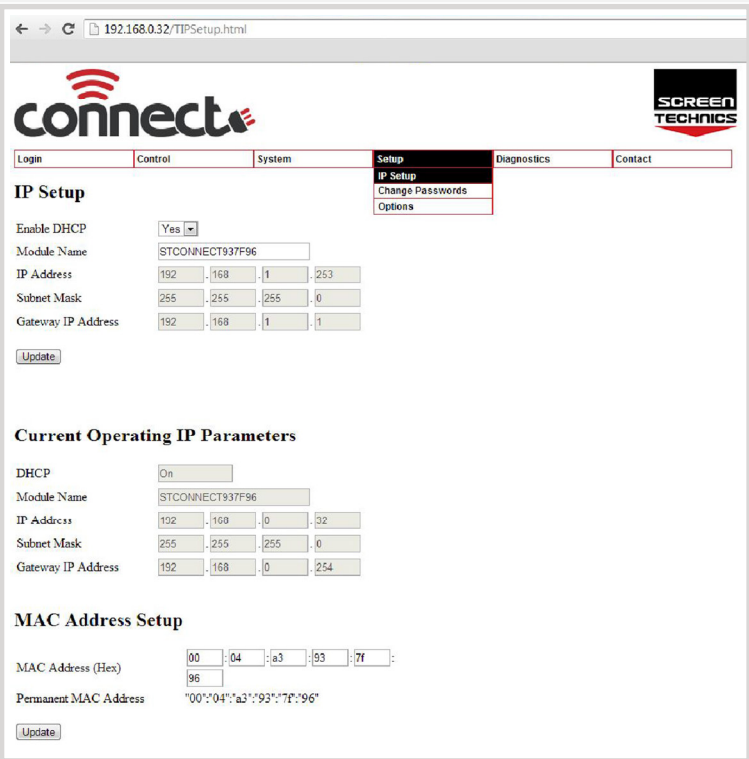
11. REGISTER SETTINGS

- Access this menu by selecting System then Module Settings
- Select MAF address or Module ID and select load
- Change value and select update
- This menu will enable changes of features within the module
- 127 registers in total
- Screen shot below showing register page

COMMONLY USED REGISTERS

Register Number	
65	Operation PIN
66	Programming PIN
67	Partial Pos 1 – Lo
68	Partial Pos 1 – Hi
69	Partial Pos 2 – Lo
70	Partial Pos 2 – Hi
71	SWITCH MODE
72	Partial 1 Open Mode
73	Partial 2 Open Mode
74	SWITCH GROUP Bitmapped Register below
75	IR GROUP Bitmap Register Below
76	Timer Up
77	Timer Down
78	MODULE_ID
82	Time_delay_up (100mS)
83	Time_delay_down (100mS)

12. INFRA-RED GROUP BITMAP CALCULATOR
- Add the value of IR groups
- If you wish the module to operate on Group 1 only – change register 75 to a value of 2
- If you wish the module to operate on Group 1 & 2 only – change register 75 to a value of 6

Group	Value
1	2
2	4
3	8
4	16
5	32
6	64
7	128
8	256
9	512
	TOTAL

13. CONTACT CLOSE SWITCH GROUPS
- Add the value of switch groups
- If you wish the module to operate on Switch Group 1 only – change register 74 to a value of 2
- If you wish the module to operate on Group 1 & 2 only – change register 74 to a value of 6

Group	Value
1	2
2	4
3	8
4	16
5	32
6	64
7	128
8	256
9	512
	TOTAL

SWITCH GROUP BITMAP REGISTER
Calculate the register number by using following table:-
1. Transfer the Value for each required group to the right column.
2. The Total of the values in the right column then becomes the Register Value
Eg: to set groups 1, 2 & 4 then the Total value is 22

Group	Value
1	2
2	4
3	8
4	16
5	32
6	64
7	128
8	256
9	512
	TOTAL

14. IP CONNECT SERIAL PROTOCOL
- This serial command protocol is essentially the same for all console channels
  - TELNET via TCP/IP (2 ports 3001)
  - HTTP via port 80

FORMAT

The stream is made up of messages. A message consists of 1 to 80 printable ascii characters followed by and end of message. An end of message is one or more of CR and LF optionally combined with any number of delimiters.

A message is made up of unsigned numerical value fields in decimal format separated by one or more delimiters. A delimiter is any single or combination of space, comma or tab.

Examples of valid messages to the IP Connect module are given below. All these messages have the same meaning.

1,3,45<CR>
1,3,45<LF>
1,3,45<CR><LF>
,1,3,45<CR><LF>
1,3,45,<CR><LF>
1,3,,45,<CR><LF>
1,3, 45,<CR><LF>
1,3,45,<CR>, ,<LF>
01,3,45<CR><LF>
000000001,3,45<CR><LF>
1 3 45<CR><LF>
1, 3, 45<CR><LF>

A message is not a valid message if:
- It contains more than 80 characters before an end of message character is received.
- It contains a character that is not <CR>,<LF>,<TAB>,<SPACE>,0,1,2,3,4,5,6,7,8,9,",".
- A numerical field exceeds 65535
- It contains more than 10 fields

If a packet is determined to be not a valid message it is ignored. If a message is determined to be invalid before the end of message is ignored then all characters received are ignored until an end of message character is received.

Messages from the IP Connect module comply with the requirements of the incoming messages but in addition are fixed width formatted. Each numerical field is made of 5 characters (leading spaces and digits). A comma delimiter is included.

An Example is shown below:

1, 3, 45<CR><LF>

15. CONTROL COMMANDS

- These commands are used to control the operation of screens.
- The Switch groups and IR groups must be programmed according to section 5
- Unified address is MAF address plus 16 e.g. Module 1 is Unified address 17

OPERATE MODULE DIRECT

COMMAND	VALUE	DESCRIPTION
30	Module ID	Operate Module UP
31	Module ID	Operate Module PARTIAL 1
32	Module ID	Operate Module PARTIAL 2
33	Module ID	Operate Module DOWN
36	Module ID	Operate Module STOP

- Command followed by value 0 operates all modules connected via Connect Network including the Connect IP module
  (e.g.: 30 0 will operate all devices connected via the Connect network)
- Example of direct command
  Connected to 192.168.0.32:3002 – command 30 1 using module ID would see the screen move to up position

IR GROUP COMMANDS

- IR group control can be used to control screens directly if connected via Connect Network including the Connect IP module
- Each module will require programming via register 75, as per point 11 in document
- Example of direct command Connected to 192.168.0.32:3002 – command 20 1 ,would see all screens programmed to operate on IR group 1 move to up position
- Command followed by value 0 operates all modules connected via Connect Network including the Connect IP module

OPERATE IR GROUP

COMMAND	IR GROUP	DESCRIPTION
20	IR Group 1 to 9, 0	Operate IR Group UP
21	IR Group 1 to 9, 0	Operate IR Group PARTIAL 1
22	IR Group 1 to 9, 0	Operate IR Group PARTIAL 2
23	IR Group 1 to 9, 0	Operate IR Group DOWN
26	IR Group 1 to 9, 0	Operate IR Group STOP

SWITCH GROUP COMMANDS

- Switch group control can be used to control screens directly if connected via Connect Network including the Connect IP module
- Each module will require programming via register 74, as per point 11 in document
- Example of direct command
  Connected to 192.168.0.32:3002 – command 20 1 - would see all screens programmed to operate on Switch group 1 move to up position
- Command followed by value 0 operates all modules connected via Connect Network including the Connect IP module

OPERATE SWITCH GROUP

COMMAND	IR GROUP	DESCRIPTION
10	SWITCH Group 1 to 9, 0	Operate IR Group UP
11	SWITCH Group 1 to 9, 0	Operate IR Group PARTIAL 1
12	SWITCH Group 1 to 9, 0	Operate IR Group PARTIAL 2
13	SWITCH Group 1 to 9, 0	Operate IR Group DOWN

16. PROGRAMMING PARTIAL POSITIONS 1 & 2

- Before partial positions can be programmed, the screen must be calibrated – Calibration is done by sending the below command. eg. to calibrate screen 1 a code of 192.168.0.32:3001 – **command 042 17** using Unified address would see the screen calibrate
- Calibration command can also be sent from the PC Connect software

COMMAND	MAF ADDRESS + 16	VALUE 1
42	Unified Address	3781

- Please start calibration by returning screen to top limit and then sending calibration command
- Due to motor run time this feature is not available on some large projection screens or Screen Lowering devices
- Partial 1 must be set first and must be above partial 2
- Note that if partial positions have been programmed Stop 1 and Stop 2 on infra red transmitter will send screen to partial 1 & 2, and will not stop the screen

SETTING THE PARTIAL POSITIONS

Note: Partial positions are set using internal timers, position can vary due to mains voltage fluctuations, motor load changes and temperature.

COMMAND	MAF ADDRESS + 16	VALUE 1	DESCRIPTION
44	Unified Address	3781	Sets Partial Position 1
45	Unified Address	3781	Sets Partial Position 2

To set Partial 1 – stop screen at required location and send command - if screen 1 is being used
- IP address 192.168.0.32:3002 – command 044 17 using unified address would see the screen set partial position 1
- To set Partial 2 – stop screen at required location and send command - if screen 1 is being used a IP address 192.168.0.32:3002 – command 045 17 using unified address would see the screen set partial position 1

17. MODULE STATUS FEEDBACK
- A module status buffer (20 record FIFO) is updated as a automatically generated Send Register Commands with register number = 0x20 are sent from each module.
  The module status buffer contains the Module ID (1 byte), and Module Status (2 bytes)

COMMAND	
050	Response from module e.g. 150, 1, 1, 6 – value 6 indicates screen at top

COMMAND	VALUE 1	VALUE 2	VALUE 3
150	Status	Module ID	Module Status Register (0x20)

Note – Status=1 is returned if valid data and no further records in the status buffer
Status=2 is returned if valid data and there are still records in status buffer
Status=3 is returned if valid data but the buffer is full (eg may have lost data)
Status=6 is returned if there are no new records

This buffer is updated when screens are moved. It is also updated automatically every 60 seconds. It needs to be polled regularly to clear the stored data otherwise it will get full and records will be lost. Even though screens may not be moving the data is being updated even though the status is the same.

| RESPONSE TYPE NO	CONNECT IP MODULE
0	Moving top
1	Moving bot
2	Moving PP1
3	Moving PP2
4	Moving PPT
5	Moving PPB
6	At TOP
7	At BOTTOM
8	At PP1
9	At PP2
10	Stopped manual
11	Error
12	Spare
13	Fail-timeout
14	Fail – current
15	Rattle
16	At PPT
17	At PPB

Example of string from module:

192.168.0.32 3001 Up Send 30 1
192.168.0.32 3001 Up Receive 130, 1, 1
192.168.0.32 3001 Status Change Receive 9999
192.168.0.32 3001 Get Module Status Send 67 3781
192.168.0.32 3001 Get Module Status Receive 167, 0, 255, 255, 255, 255, 255, 255, 255, 255
192.168.0.32 3001 Status Change Receive 9999
192.168.0.32 3001 Get Module Status Send 67 3781
192.168.0.32 3001 Get Module Status Receive 167, 6, 255, 255, 255, 255, 255, 255, 255, 255

18. AMX Device Discovery

- This feature allows the IP CONNECT module to be identified by AMX AV Control Systems. When polled the IP CONNECT module responds with a Beacon message which contains device specific information. (Eg Make, Model, Version) With this information the AMX system is able to then configure itself with the correct protocol to be able to control the IP Connect Module.
- The protocol works for any of the Serial ports, and over TCP/IP.
- The AMX "Device Discovery White Paper.Doc" defines, The Dynamic Device Discovery
- Protocol - the connection methods and data interactions required to dynamically connect a third party device to a NetLinx Master via either serial or IP connectivity.
- AMX Discovery is enabled using Register 80 or via internal web browser

19. FACTORY RESET SWITCH

- Single long press for 5 seconds approximately
  - Factory Default Mode selected.
  - LED double flashes.
  - Pressing button again exits mode.
  - Receiving an IR command exits this mode.

Indicator LED   **Reset Switch**
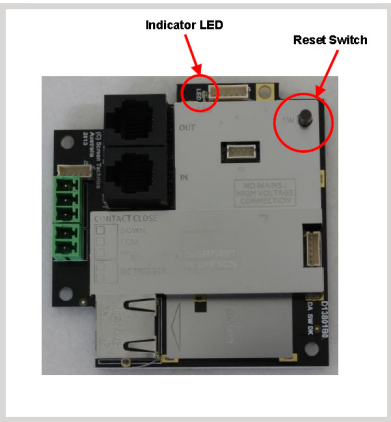
- Single short press for 3 seconds approximately
  - Screen Rattle command.
  - 3 seconds down 1 second up.
  - LED single flashes while in this function.
  - Pressing button again stops screen.
  - Function is exited when screen operation finished or another screen operate command is acted on.

- Double short press for 2 seconds approximately per button press
  - Screen Up command. Screen travels to up limit.
  - LED single flashes while in this function. Pressing button again stops screen.
  - Function is exited when screen travels to up position or another screen operate command is sent.

- Triple short press for 2 seconds approximately per button press
  - Screen Down command. Screen travels to down limit.
  - LED single flashes while in this function.
  - Pressing button again stops screen.
  - Function also exited when screen operation finished or another screen operate command is acted on.

20. Default IP Address when in Factory Default Mode

- Hold reset button on module until LED flashes twice to put the IP module into static IP mode
- You will need to set your network adaptor to look for IP range – example shown:

http://192.168.1.253
Into browser address bar
Input User
Name : Admin - Password : Connect
You should now see the direct control screen
You can now access the settings for the Connect IP module