

RDU TO NDU CONVERSION

INSTRUCTIONS FOR UPGRADING TO AS1603.4 NDU V2.XX SOFTWARE

General

It is recommended that if converting a slimline RDU to an NDU then the existing RDU is replaced by a complete NDU.

These instructions cover the upgrade of an AS1603.4 Tyco RDU (in a slimline or 19" rack cabinet) to an AS 1603.4 Networked Display Unit (NDU), using the latest AS 1603.4 software (V2.09).

The parts required are:

1 x FP0731 FP, RDU TO NDU UPGRADE KIT

and if the existing RDU has an old issue Controller Card (1931-2-2) then

1 x PA0804 PCB ASSY, 1931-84-1, F3200 CTRL/NETWORK/NDU, NO S/W

is also required. For 19" cabinet RDUs, if LED Display Boards are used then a new flat ribbon cable may be required.

LM0092 LOOM, 1931-88, F3200 MKII CONTROLLER TO FIRST DISPLAY

Details of the FP0731 kit contents are shown in Table 1.

The hardware modifications depend on whether the existing RDU has the old issue Controller PCB (1931-2-2) or the new issue (1931-84-2) fitted, and what cabinet type it is.

All upgrades then finish with the software upgrade and network wiring.

Use ESD precautions when handling any of the PCBs or ICs.

Upgrading an old Slimline RDU that has a 1931-2-2 Controller

Power down the RDU and disconnect the power and RZDU comms wiring; remove the existing Controller PCB (1931-2-2), Remote Termination PCB (1931-27) and the FRC joining them.

Fit the new Controller PCB (PA0804) to the door using some of the existing screws and washers.

Drill 4 x $\Phi 3.5$ mm holes in the back of the cabinet using Figure 1 for positions.

Feed the M3 x 16 screws into the cabinet from the rear and secure on the inside with shake-proof washers and nuts. Fit the plastic spacers onto the screws, and then mount the RS485 Board onto the screws using the stainless washers and nuts to hold it in place - the J3 screw terminals should be nearest to the cable entry holes.

Run the 10 way FRC from J7 NETWORK 1 on the Controller to J1 on the RS485 Board, securing it with the 4 FRC cable holders supplied.

Cut the existing door switch loom out and connect the new one to the microswitch using the screw block provided so that the 4-way connector plugs onto J26 DOOR SWITCH on the Controller.

Extend the power cable to J5 +24V/0V on the Controller (using the 4-way demountable connector provided). Allow sufficient cable so that the door can open wide, and secure using cable ties and holders supplied.

Upgrading a new Slimline RDU that has a 1931-84-2 Controller or 1931-111 Controller

Power down the RDU and disconnect the power and RZDU comms wiring. Remove the Remote Termination PCB (1931-27) and the FRC to the Controller.

Fit the RS485 Board to the threaded standoffs in the rear of the case using the M3 x 6 screws and stainless washers provided.

Run the 10 way FRC from J7 NETWORK 1 on the Controller to J1 on the RS485 Board, securing it with the 3 FRC cable holders supplied.

Cut the existing door switch loom out and connect the new one to the microswitch using the screw block provided so that the 4-way connector plugs onto J26 DOOR SWITCH on the Controller.

Extend the power cable to J5 +24V/0V on the Controller, using the 4-way demountable connector provided. Allow sufficient cable so that the door can open wide. Secure the cables using cable holders.

Carefully fit the 44-pin IC into U13 on the Controller. Note that the bevelled corner must be positioned correctly, and the IC must be pushed into the socket.

Upgrading an Old 19" Rack Cabinet RDU that has a 1931-2-2 Controller

Power down the RDU, remove the existing Controller PCB (1931-2-2), and fit the new Controller PCB (PA0804) to the door using some of the existing screws and washers.

Reconnect the FRC to the MAF Module to J4 on the Controller. If any LED Display Boards are fitted a new loom (LM0092) must be run from J13 on the Controller to the first LED Display Board.

Drill 4 x Φ 3.5mm holes in the RHS of the cabinet using Figure 2 for positions.

Feed the M3 x 16 screws into the cabinet from the outside and secure on the inside with shake-proof washers and nuts. Fit the plastic spacers onto the screws, and then mount the RS485 Board onto the screws using the stainless washers and nuts to hold it in place - the J3 screw terminals should be nearest to the bottom of the cabinet.

Run the 10 way FRC from J7 NETWORK 1 on the Controller to J1 on the RS485 Board, securing it with FRC cable holders.

Upgrading a New 19" Rack Cabinet RDU that has a 1931-84-2 Controller or 1931-111 Controller

Power down the RDU.

Fit the RS485 Board to the threaded standoffs in the RHS of the case using the M3 x 6 screws and stainless washers provided.

Run the 10 way FRC from J7 NETWORK 1 on the Controller to J1 on the RS485 Board, securing it with FRC cable holders.

Carefully fit the 44-pin IC into U13 on the Controller. Note that the bevelled corner must be positioned correctly, and the IC must be pushed into the socket.

Software Upgrade & Network Wiring

Remove any existing RDU software and fit the new NDU EPROM to U2 on the Controller. Check that Lk11 and Lk12 are fitted in a Slimline NDU and not fitted when a MAF Board is connected (Rack cabinet). Check the other links are as follows:

Link settings for "Issue A" Controller

Lk1	1-2	Lk6	2-3	(E2)
Lk3	Not Fitted	Lk8	1-2	(LHS)
Lk4	1-2 (E2/RAM)	Lk13	2-3	(A17)
Lk5	Not Fitted	Lk14	M	
Lk7	Write	Lk2	Fit	(remove for service mode)

Link settings for "Issue B" (or later) Controller

Lk13	2-3	U2 EPROM/ FLASH
Lk22	1-2	U2 EPROM/FLASH
Lk21	2-3	U2 EPROM/FLASH
Lk1	1-2	EEPROM
Lk4	1-2	EEPROM
Lk5	Not Fitted	EEPROM
Lk23	1-2	EEPROM
Lk8	1-2	'256K'
Lk24	1-2	U4 RAM
Lk20	Protect	Code
Lk14	M	
Lk15	M	
Lk16	AC position if powered from a MAF board/mains, otherwise DC	
Lk2	Fit	Remove for service mode

An "Issue B" (or later) controller board can be identified by the presence of a DB9 connector (J27) immediately adjacent to the J1 serial port (printer/programmer) connector, plus a code write protect link (LK20) to the right of the memory sockets. "Issue A" and earlier do not have the DB9/J27 connector or LK20. This applies to both AS4428 and AS1603 boards. If a PA0804 is used to upgrade an old 1931-2-2 controller, then refer to LT0330 Issue D (or later) for information on the link settings.

Fit SW1, Lk7 to the DATABASE WRITE position, and power up. Follow the instructions to complete the initialisation. Then program the NDU as required - refer to the F3200 Installation & Programming Manual (LT0122).

Wiring of the NDU to the network is covered in LT0198.

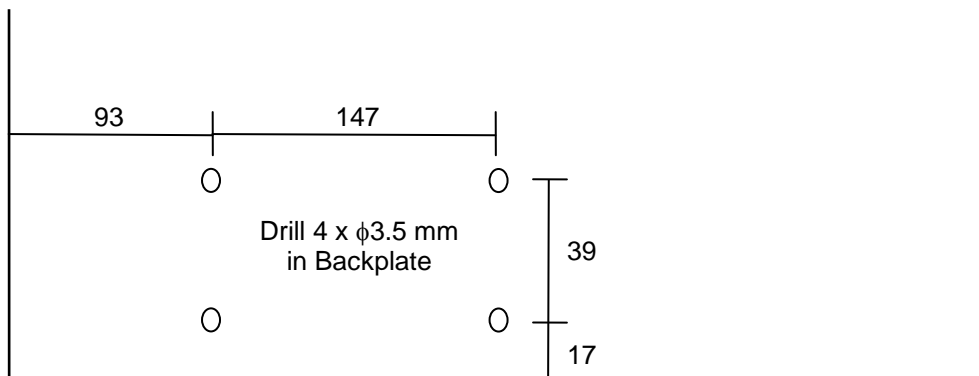


FIGURE 1 - DRILLING DETAIL FOR SLIMLINE RDU

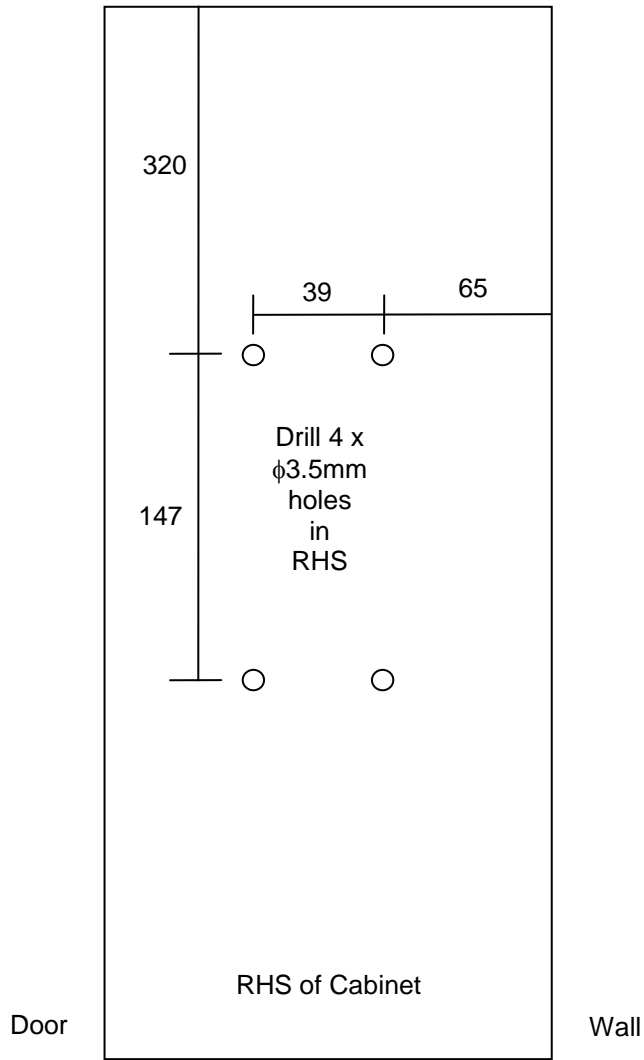


FIGURE 2 - DRILLING DETAIL FOR RACK CABINET

Table 1
FP0731 Kit Contents

Part	Description	Qty	Use
CN0020	Connector Block 380V 10A 2.5sqmm 4mm CRP 12 Way	.5	Extending door switch loom and power
CN0123	Connector Mini-Jump (0.11N shunt) 3 Amp	1	Fit on LK12 on Controller Board
CN0275	Connector Termi-Block Plug R/A 2.5sqmm 5mm 4 Way	1	Controller standalone plug (J5)
CN0295	Connector 0.1 inch IDC 0.2sqmm 4 Way Methode 130X	1	Door switch
HW0171	Hardware Spacer 6.3mm 4NA06N	4	Mounting RS485 board in older cabinets
IC0358	IC SCC2692A44 Duart 44 Pin PLCC	1	Controller U13
IN0024	Insulation Sleeving Heat Shrink 5mm Black	.04	Door switch loom
LM0091	Loom FRC 10W Style C 500mm	1	Controller J7 to PA0773 J1
LT0120	Literature 1931-18 F3200 Operator's Manual A5	1	
LT0198	Literature 1931-83 F3200 Network Upgrade Instructions	1	
LT0212	Literature RDU to NDU Upgrade Instructions	1	
NT0007	Nut Hex M3 ZP	8	Mounting PA0773 in older cabinets
PA0773	PCB Assy 1901-139-3 RS485 Comms Bd CMOS FRC Only	1	
RR0045	Resistor 0.6W 1% 50PPM D2.5mm P10MM 10K0	1	MCP EOL
SC0041	Screw Machine PH POZI M3 x 6mm ZP	4	Mounting RS485 Board
SC0044	Screw Machine PH POZI M3 x 16 ZP	4	Mounting RS485 Board in older cabinets
SF0231	Software NDU c/w Tandem V2.09 EPROM	1	U2 on Controller Board
SU0020	Sundry Cable Tie 3.62IN TY-RAP TY-523M	7	2 x Mounting Door Switch Loom 5 x Mounting Power Cable
SU0099	Sundry Cable Tie Holder Adhesive	7	Secure Wiring
SU0151	Sundry FRC Clamp Adhesive 1IN	3	Secure LM0091
WA0010	Washer Shakeproof M3 1.T Lock ZP	8	Mounting PA0773 in older cabinets
WA0026	Washer Crinkle Stainless Steel M3	4	Mounting PA0773
WR0110	Wire Hookup 0.2sqmm Twin Stranded	1	Door Switch Loom

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