F3200 / NDU / RDU

INSTALLING PA0804 AS1603.4 F3200/NDU/RDU CONTROLLER REPLACEMENT BOARD

General

The PA0804 F3200 Controller board may be used as a replacement board for any AS1603.4 F3200, NDU or RDU. It may not be used as a replacement board in an AS4428.1 panel because the LEDs on the PA0804 controller board do not match the AS4428.1 keyboard layout. PA0909 is the AS4428.1 replacement board.

An AS1603.4 panel can be identified by the fact that it has the three leftmost LEDs in the order Alarm, Isolate, Fault (top to bottom) whereas the AS4428.1 keypad has the LEDs in the order Alarm, Fault, Isolate. The AS4428 keypad also has Warning System Isolate, External Bell Isolate and AIF Attended LEDs which the AS1603.4 keypad does not have.

Software versions

Any version of F3200, NDU or RDU software may be installed in the **1931-111 Issue B** derived PA0804, providing the correct version of PAL is installed in socket U8, as explained below. Normally, AS1603.4 software (F3200/ NDU V2.XX, RDU V2.XX) is fitted to the PA0804 controller, however, F3200/ NDU AS4428.1 software (V3.XX, V4.XX or V5.XX) can alternatively be fitted, providing partial AS4428.1 operation. RDU V5.XX software provides both AS1603.4 and AS4428.1 mode of operation (selected with a programmable parameter) so can be fitted to either an AS1603.4 controller (e.g. PA0804) or an AS4428.1 controller (e.g. PA0909).

RDU software version 1.XX should be upgraded to the latest RDU software. The procedure for this is described in literature LT0501. If an F3200/NDU is being upgraded to the latest V2.XX software then refer to PBG0098 for further detail. The software EPROM is installed in the U2 socket on the controller board.

PAL chip software version

The controller board has a PAL (Programmable Array Logic) chip installed in the U8 socket. There are two versions of PAL software, SF0256 (V1.00) and SF0427 (V1.10). LT0330 (*Issue D*) shows which version of PAL to use according to what software is installed in the U2 socket. RDU V2.XX or earlier software must use SF0256 V1.00 PAL. F3200/ NDU / RDU V5.XX must use SF0427 V1.10 PAL. F3200/NDU V2.XX, 3.XX or 4.XX software can use either version of PAL. The PA0804 is supplied with an SF0256 V1.00 PAL chip fitted, so if V5.XX software is being used, the PAL chip in U8 must be swapped to be SF0427 V1.10. SF0427 is supplied separately with the PA0804.

512K Flash EPROM in U3

F3200/ NDU/ RDU V5.XX software requires a 512K flash chip (IC0483 29F040 or 39F040) installed in socket U3 to provide non-volatile history. PA0804 is supplied with an EEPROM fitted to socket U3, so if V5.XX software is being used, the EEPROM must be removed from U3 and replaced with IC0483 (supplied separately with PA0804).

Controller board PCB type

There are currently three varieties of F3200 controller board PCB that have been manufactured – 1931-2 ("wide board" version), 1931-84 and 1931-111. If the PA0804 replaces a 1931-2-1 PCB then it mounts in the upper half of the inner door using the existing screw positions and screws. Also if there are LED Display Boards in the panel then an additional loom LM0092 is required.

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

F3200 Software V1.10

If F3200 V1.10 software is being used then it may continue to be used, however, upgrading to the latest V2.XX software is recommended. For F3200 V1.10 software, links LK8 and LK13 are in different positions to any V2.XX software (see below). If the software is being upgraded from F3200 V1.10 to F3200 V2.XX then the existing database can be converted on power up of the new board or when a V1.10 database is downloaded to the new board.

Database conversion

If RDU software is being upgraded from V2.XX to V5.XX then the database can be converted using a PC utility (SF0425) available on the Tyco Fireplace website. This is described in the programming manual for RDU software V5.XX, LT0499. The current database must first be saved to a PC where it can be converted using SF0425, after which it can be loaded from the PC into a V5.XX RDU.

If F3200 V2.XX or later software is being upgraded to a newer version, the existing database can be imported into the new software, so if the existing database needs to be retained then it should first be saved to a PC, then later loaded into the controller after new software has been installed. Database parameters which are provided by the new software and not the old will need reviewing to check the default values give the desired behaviour. This is best done by comparing database printouts.

Installation Instructions

NOTE: Use anti-static (ESD) precautions when installing or removing ICs on the board.

1. Ensure that the current database is saved on disk. If the database was not saved on disk and it is desirable to retain it, then it may be possible to swap the EEPROM (socket U3) from the old board to the new board (unless V4.XX or later software is being used). If the old board already has V4.XX or later software, then the database is held in the U2 chip and will be automatically transferred when the U2 chip is moved from the old board to the new board, as described in the next step. If a database checksum error occurs when the new board is powered up then the database will need reinitialising/ reprogramming or reloading.

2. Transfer the software EPROM from U2 on the old board to U2 on the new board. Ensure it is orientated correctly and all pins are inserted properly. PA0804 is supplied with a RAM chip fitted to U4 and this should be left installed as supplied - it will work with all types/versions of software. If RDU V5.XX or F3200 V5.XX software is being used, the PAL chip in U8 must be swapped to be SF0427 V1.10 and IC0483 fitted to the U3 socket.

3. Set the links on the controller board as shown in literature LT0330 (issue D) accompanying the PA0804. LT0330 does not show the link settings for F3200 V1.10 software (this should ideally be upgraded to V2.XX), however, if F3200 V1.10 software is used, the links should be set as for F3200 V2.XX software except that LK13 must be set to 1-2, LK8 must be set to 2-3 and the PAL chip must be SF0256 V1.00.

4. Install the controller board, power the panel up and download the database (if appropriate). Perform appropriate tests such as system test, display and buzzer tests and zone tests to ensure the panel is operating correctly.