brandywine communications

INSTALLATION INSTRUCTIONS

M190, M210, AND M211

PROMS, MODULES, AND
FLASH ROMS

REVISION A

MAY 2005

WARNING...

(1)   Dangerous voltages exist in this equipment. Do not attempt any repairs without first switching off the power to the system and removing the main connector.

(2)   Nickel, cadmium, and cobalt hydroxide are toxic substances and potassium hydroxide is a corrosive substance. The nickel cadmium battery fitted to the GPS receiver module within this system is dangerous if broken or dismantled. If any battery chemicals come into contact with the skin, wash with copious amounts of water and seek medical attention as required. If the battery is swallowed, seek immediate medical attention. Return any faulty batteries to the manufacturer properly packaged for disposal.

(3)   The liquid crystal display can be hazardous if broken or dismantled. If any liquid crystal display chemicals come into contact with the skin, wash with soap and water. Return the faulty display to the manufacturer properly packaged for disposal.

(4)   Most units contain tantalum capacitors. The power supply unit contains electrolytic capacitors. Both types of capacitors can explode under fault conditions. Take appropriate precautions when working with the unit when the lid is removed.

CAUTION...

(A)   Care must be taken when handling the system. When lifting the system standard procedures appropriate to the weight of the item must be used. All equipment and lru's must be transported in packaging that will ensure its safe and undamaged transit.

(B)   Several units contain static sensitive devices. Appropriate procedures must be used when handling these items.

Before starting any work on the unit ensure that there is adequate access to the rear and the top of the unit. Additionally, ensure that the unit is turned off and has its power supply lead removed.

While handling devices and modules take adequate anti-static precautions.

Take off the top lid of the timing unit by removing the screws on the lid. Unbolt the grounding connections that have been made to the lid.

INSTALLATION INSTRUCTIONS FOR M190 PROM

The CPU board is immediately visible when facing the top of the unit. The PROM, which contains the unit's software is found in socket IC11. Check its orientation by finding the notch at its end. Using a suitable extraction tool extract the existing PROM. Replace it with the new PROM ensuring that it is correctly orientated and all pins are in the socket and are pushed home firmly.

INSTALLATION INSTRUCTIONS FOR M210 AND M211 PROMS

The CPU board is immediately visible when facing the top of the unit. The PROMs, which contain the unit's software are found in sockets IC27 and IC28. Check the orientation of the PROMs by finding the notches at their ends. Using a suitable extraction tool extract the existing PROMs. Replace them with the new PROMs ensuring that any unused pins are at the notch end of the socket (since the socket may be designed to take two different sized PROMS). Place the PROM labelled 0210xx-xO or 0211xx-xO in socket IC28 and 0210xx-xE or 0211xx-xE in IC27. Ensure that they are correctly orientated and all pins are in the socket and are pushed home firmly.

INSTALLATION INSTRUCTIONS FOR M190, M210, AND M211 MODULES

Identify the module to be replaced or the position in which it is to be fitted (NB M190 only has one position). Remove and retain the 4 screws on the back of the unit that secure the backplate to the timing system. If a module is to be replaced, gently ease out the existing module removing any earthing connections that may have been made. Insert the new module component side up for the M190 and M210 or to the left (front view) for the M211. Make any earthing connections that are necessary. Gently push the module onto the mating connector within the timing system making sure that the connector is fully home. Secure the module with the 4 retained screws.

FUNCTIONAL TESTS

While the timing system remains removed for modification connect to a main supply and power it up.

Verify that the startup message on the LCD display is
' TFS TIME SYSTEM   ' where xx, y is the software name and
' 0210-xx-000-y Vzz.00 ' where zz is its version as seen on the PROMs OR
' 0211-xx-000-y Vzz.00 '

If the display is blank or the yellow status light is flashing, then it is likely that the CPU firmware is not correctly fitted. Please verify that its orientation and positioning is correct and that the PROMS are in their correct sockets.

If the message ' TFS TIME SYSTEM   ' is displayed, then it is likely that a module has failed.
　　　　　　' **SELF TEST FAILED** '

The orientation and seating of the new devices fitted should be verified and the modules should be firmly seated into the timing system. If these checks do not stop the failure, then please contact the manufacturer.

If the message ' *UNIT NOT INITIALIZED*   ' is displayed please contact the manufacturer.
　　　　　　' PLEASE CONTACT T.F.S. '

UPGRADE OF ETHERNET FLASH ROM

To upload the code, connect a PC to the 9-way socket on the Ethernet Card. Use HyperTerminal or a similar communications package. Set it to 38400 baud, 8 data bits, no parity, and 1 stop bit.

Cycle the power for the timing system and the PC should display the following:

Time & Frequency Solutions Ltd.
Intelligent Ethernet Boot Loader
Dual Port RAM passed
Reset cause : HARD
RAM test passed
UART test passed
FLASH ROM test passed
FLASH ROM is INTEL
Current boot software is 0210GG-A V02.00
Current main software is 0210GE-B Vxx.xx
Commands are:
       Ctrl-R to upload new software
       Ctrl-Z to restart program
Press ESC to prevent Flash Program running in 09 seconds
Press ESC to prevent Flash Program running in 08 seconds
.
.
Executing main software...

By pressing ESC before the countdown closes and then Ctrl-R (or Ctrl-r) you will get the following:

> Ready to receive new program pattern

At this stage send the supplied '210GEx.s S-Record' file as a text file. You will get a succession of 300 dots followed by:

Upload successfully completed
Flash ROM erasing...
Flash ROM erased.
Flash ROM Programming...
Flash ROM Programmed.
Executing main software...
Intelligent Ethernet Card Starting...

For good measure cycle the power for the timing system again.

In the event of any further queries arising from the modification please contact us at:

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