

November 2007

TECHNICAL SERVICE BULLETIN from Pyrodigital Consultants, Inc.

FM-4 “No Response, but Fires OK” Problem

There seem to be some older FM-4’s that appear to be “dead”, showing NO RESPONSE on the Field Controller, but upon testing, all circuits still Fire OK. We have found blown R11 and R12 resistors on the PCB which prevents Status Returns, thus showing up as “No Response” FM-4’s.

We DO NOT believe that the problem is systemic to all FM-4’s. Current Production FM-4’s has newer “high anti surge” resistors installed.

Pyrodigital Consultants, Inc. does not understand why these R11 / R12 resistors fail. If you, the Customer, can identify any circumstances or specific instances where the failure occurs, please let us know.

As an accommodation to our Customers, Pyrodigital Consultants, Inc. offers several options to have these type failed FM-4’s repaired.

Customer Local Repair Option;

The simplest, fastest, and lowest cost option is for the customer to have their own FM-4’s repaired by a local shop qualified to work on surface mount PCB’s (surface mount Printed Circuit Boards). Such qualified shops are available in virtually any major city worldwide. Pyrodigital Consultant, Inc. will provide replacement double wattage, high anti surge resistors at No Cost. Additionally the resistor part numbers are included, as the local shop may already have these inexpensive resistors in stock or be able to obtain them easily. Replacing the resistors is not difficult for a qualified shop and should not be very expensive. This Service Bulletin includes simple instructions and photographs to assist your local shop in replacing the R11 and R12 resistors. This option saves you time and shipping costs to / from Pyrodigital. Note that the R11 / R12 resistors can be changed without having to remove the PCB, but can be replaced with only the Top Cover of the FM-4 removed.

Pyrodigital Factory Repair Options;

PCB ONLY. Call us for an RMA Authorization and send the PCB ONLY (which you have removed from the FM-4) and we will replace the R11 and R12 resistors with the new double wattage, high anti surge resistors at our cost + shipping. The cost is minimal, check with us for current cost.

FM BOTTOM HOUSING WITH PCB ONLY. Call us for an RMA Authorization and send the PCB still installed in the Bottom Housing (for which you have removed the Top Cover of the FM-4) and we will replace the R11 and R12 resistors with the new double wattage, high anti surge resistors at our higher cost (due to increased labor for handling with PCB installed) + shipping.

ENTIRE COMPLETE FM-4. Call us for an RMA Authorization and send the entire complete FM-4 and we will replace the R11 and R12 resistors with the new double wattage, high anti surge resistors for our even higher cost (including cost of disassembly and reassembly of complete FM-4) + shipping. This option will, of course, additionally have the highest shipping costs and take the most time for us to repair.

CALL FIRST before shipping; Pyrodigital Consultants, Inc.; USA 831-375-9489

Normal shipping address for R11 / R12 resistor replacement on FM-4 PCB's;

PEAK CONTRACT MANUFACTURING
ATTN: Nixon Electronics / FM-4 Repair
6113 Constitution Ave.
Colorado Springs, CO 80915 USA

Notes for Customer Local Repair Shop;

Anyone with normal surface mount skills should be able to replace both resistors.

Please see included photograph for identification / location of the R11 and R12 resistors.

Just use a small screwdriver to dig out tough gel conformal coating around the parts first.

For the R11 & R12 resistors, the Digikey part number is P180ASTR-ND - full reel, or P180ASCT-ND for cut tape (200 pc strips)

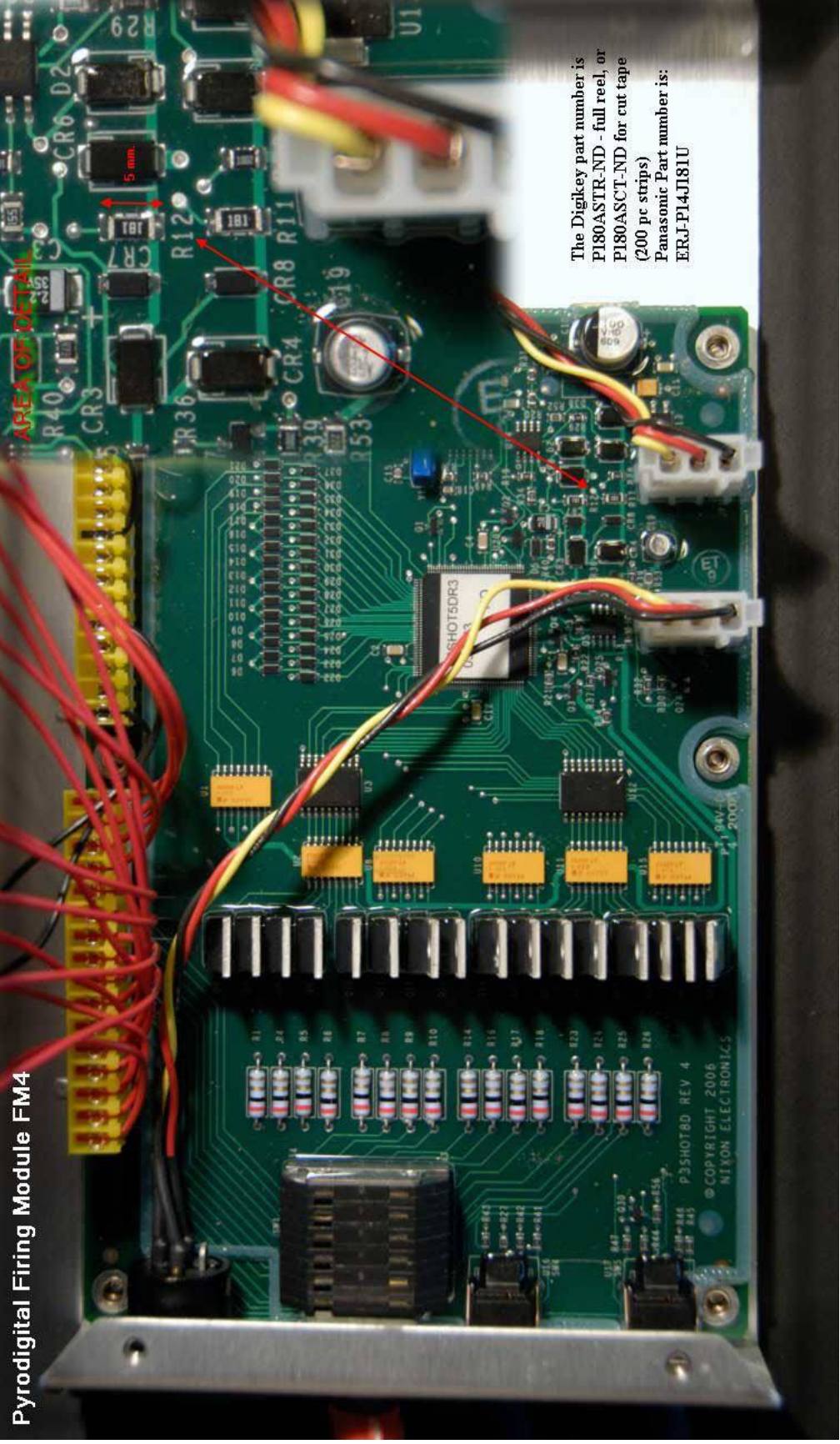
<http://search.digikey.com/scripts/DkSearch/dksus.dll?Detail?name=P180ASCT-ND>

The Panasonic Part number is ERJ-P14J181U

Pyrodigital Consultants, Inc. can provide these parts at NO COST. After replacing both the R11 and R12 resistors, test the PCB for function if possible.

Re-seal the PCB around the resistors with an Electronic Grade RTV Sealer. If you don't have, or can't find, an Electronic Grade RTV Sealer, check with Pyrodigital Consultants, Inc. for suggested Part Number / Supplier / Availability.

Pyrodigital Firing Module FM4



The Digkey part number is
P180ASTR-ND - full reel, or
P180ASCT-ND for cut tape
(200 pc strips)
Panasonic Part number is:
ERJ-P14J181U

AREA OF DETAIL

5 mm

P3SHOT8D REV 4
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NIXON ELECTRONICS

U1 P3SHOT8D

R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21 R22 R23 R24 R25 R26 R27 R28 R29 R30 R31 R32 R33 R34 R35 R36 R37 R38 R39 R40 R41 R42 R43 R44 R45 R46 R47 R48 R49 R50 R51 R52 R53 R54 R55 R56 R57 R58 R59 R60 R61 R62 R63 R64 R65 R66 R67 R68 R69 R70 R71 R72 R73 R74 R75 R76 R77 R78 R79 R80 R81 R82 R83 R84 R85 R86 R87 R88 R89 R90 R91 R92 R93 R94 R95 R96 R97 R98 R99 R100

R40 CR3 CR4 CR5 CR6 CR7 CR8 CR9 CR10 CR11 CR12 CR13 CR14 CR15 CR16 CR17 CR18 CR19 CR20 CR21 CR22 CR23 CR24 CR25 CR26 CR27 CR28 CR29 CR30 CR31 CR32 CR33 CR34 CR35 CR36 CR37 CR38 CR39 CR40 CR41 CR42 CR43 CR44 CR45 CR46 CR47 CR48 CR49 CR50 CR51 CR52 CR53 CR54 CR55 CR56 CR57 CR58 CR59 CR60 CR61 CR62 CR63 CR64 CR65 CR66 CR67 CR68 CR69 CR70 CR71 CR72 CR73 CR74 CR75 CR76 CR77 CR78 CR79 CR80 CR81 CR82 CR83 CR84 CR85 CR86 CR87 CR88 CR89 CR90 CR91 CR92 CR93 CR94 CR95 CR96 CR97 CR98 CR99 CR100

U1