

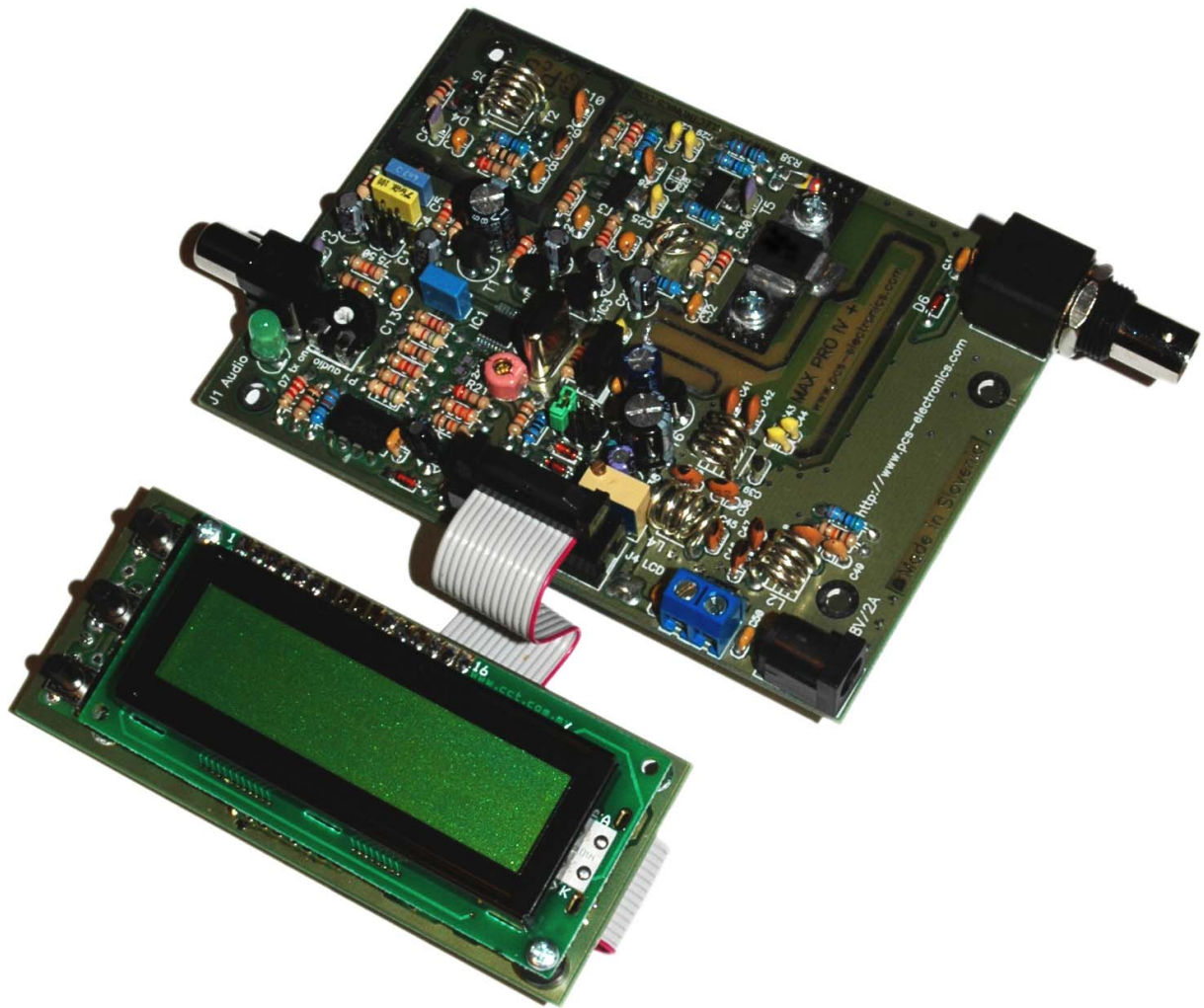


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# UNIVERSAL LCD CONTROL MODULE V1.0

Assembly and operating instructions

*Universal LCD control module is used to control all of our LCD-unit supporting products, which includes MAX PRO III, MAX PRO IV+, SE4 DSP+, AM MAX II and others. This document brings assembly instructions and gives some instructions related to operation of LCD control module. For product specific instructions please check particular product's user manual..*



*Fig. 1: UNIVERSAL LCD control module, in this particular case connected to MAX PRO IV+*

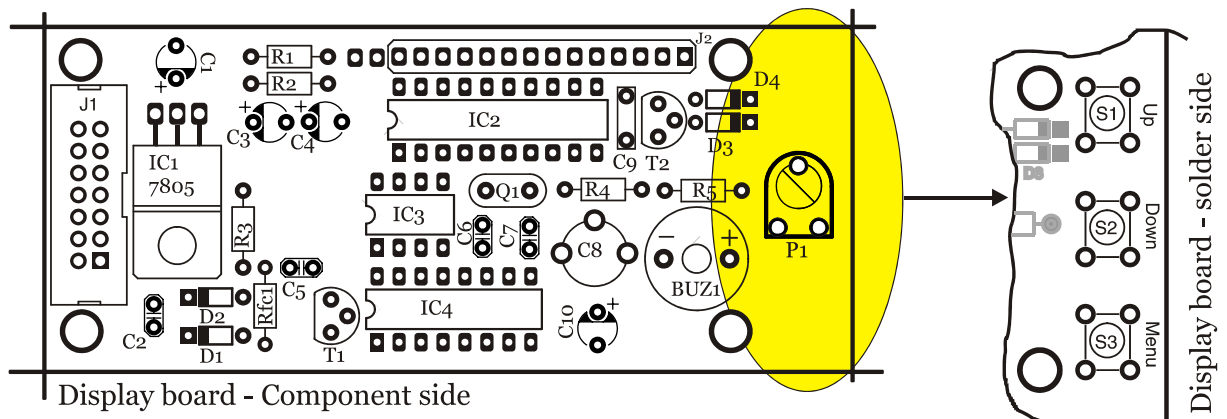
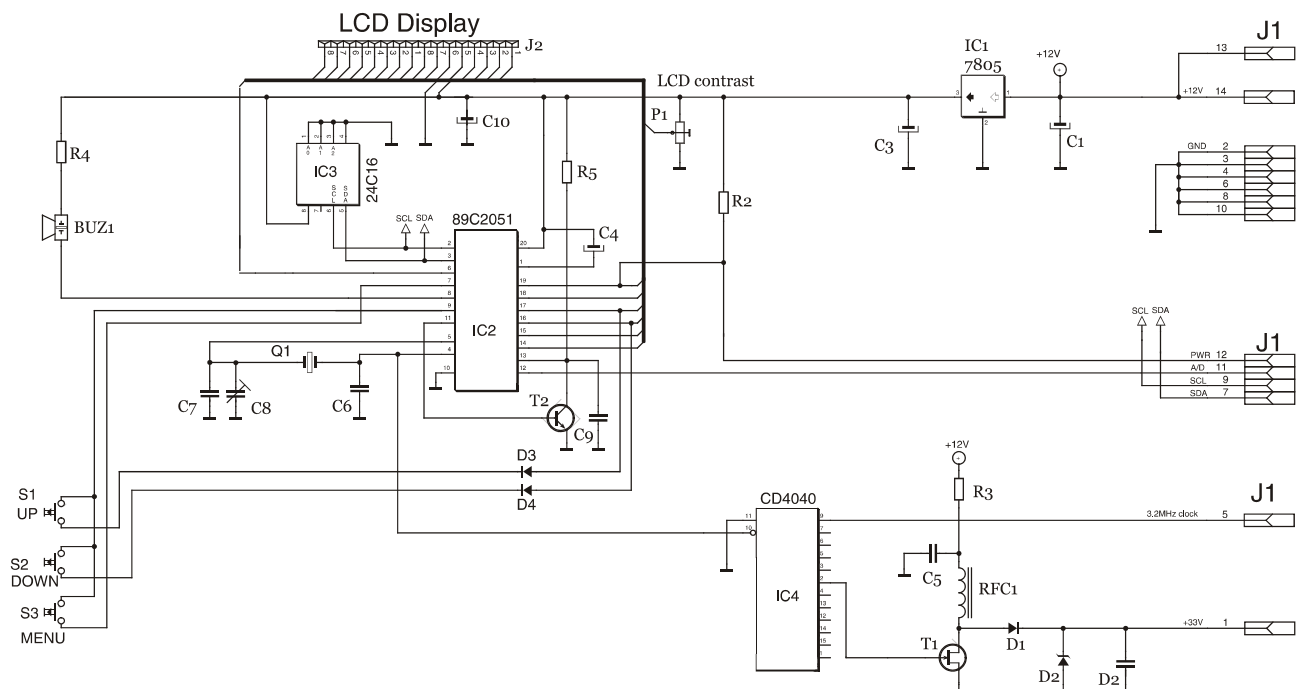


Figure 2: LCD control module board layout



### DISPLAY BOARD - SCHEMATIC DIAGRAM

Figure 3: LCD control module board schematic

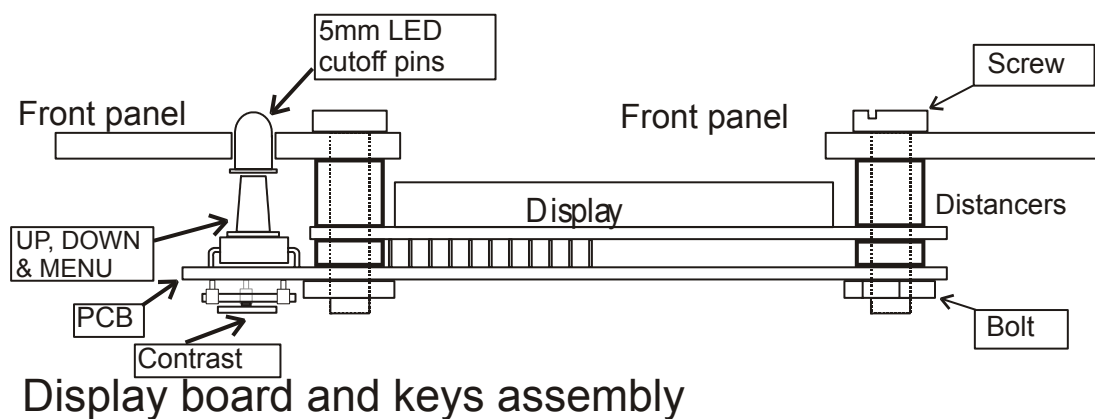
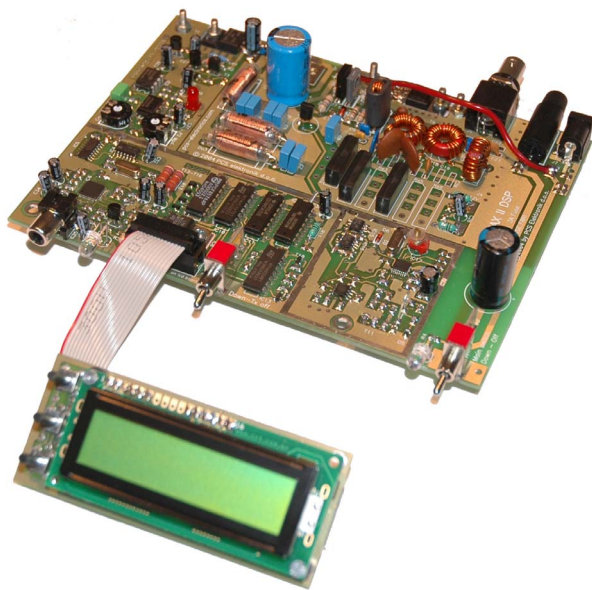


Fig 4: Installing the LCD control module to the enclosure

### BILL OF MATERIALS FOR LCD CONTROL MODULE (for AM MAXII+)

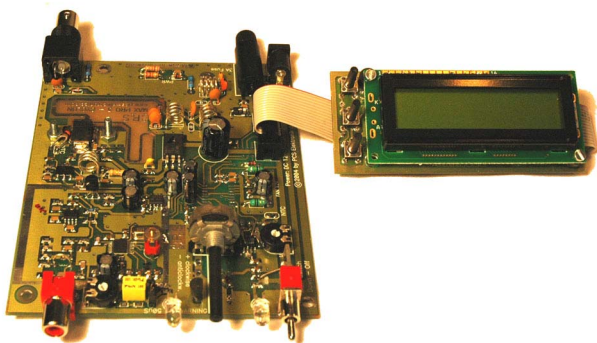
| QTY | Value                                  | Reference  | Type                        |
|-----|--|------------|-----------------------------|
| 1   | Beeper, small oval speaker             | BUZ1       |                             |
| 1   | 7805                                   | IC1        |                             |
| 1   | 89C2051 or 89C4051                     | IC2        |                             |
| 1   | 24C16                                  | IC3        |                             |
| 1   | 74HC4040                               | IC4        |                             |
| 2   | 10uF – 47uF                            | C1, C3     |                             |
| 1   | 100nF (marked as 104)                  | C2         |                             |
| 1   | 0.47-1uF                               | C4         |                             |
| 1   | 100nF (marked as 104)                  | C5         |                             |
| 1   | 47pF (marked as 47p)                   | C6         |                             |
| 1   | 68pF (marked as 68p)                   | C7         |                             |
| 1   | Not used                               | C8         |                             |
| 1   | Not used                               | C9         |                             |
| 1   | Flat cable                             | J1         |                             |
| 3   | 1N4148                                 | D1,D3,D4   |                             |
| 1   | Not used                               | D2         |                             |
| 1   | LCD display, see pics for mounting     | J2         |                             |
| 1   | 6.4MHz                                 | Q1         |                             |
| 1   | BS170 (reverse when using 2N7000)      | T1         |                             |
| 1   | Not used                               | T2         |                             |
| 3   | Push button                            | S1, S2, S3 |                             |
| 1   | 10K trimmer resistor                   | P1         | Set LCD contrast with P1    |
| 1   | 56 ohms                                | R1         | Green, Blue, Black, Gold    |
| 1   | 1K                                     | R2         | Brown, Black, Red, Gold     |
| 1   | 330 ohms                               | R3         | Orange, Orange, Brown, Gold |
| 1   | 150 ohms                               | R4         | Brown, Green, Brown, Gold   |
| 1   | 22K                                    | R5         | Red, Red, Orange, Gold      |
| 1   | 1000uH, looks like a greenish resistor | RFC1       | Brown, Black, Red, Silver)  |
| 2   | Bolts for LCD                          |            | Opposite corners            |
| 2   | Screws for LCD                         |            | Opposite corners            |
| 2   | Distancers for LCD                     |            | Opposite corners            |
| 1   | PCB, 90x40mm                           |            |                             |
| 1   | IC socket, DIL 20                      | For IC2    |                             |

NOTE: Connect IC2 pins 11 and 12 (solder at the top of the socket)



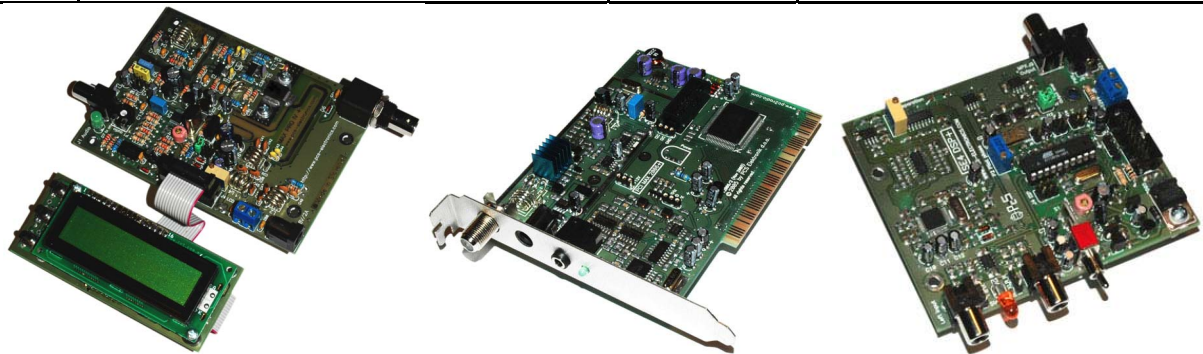
**BILL OF MATERIALS FOR LCD CONTROL MODULE (for MAX PRO III)**

| QTY | Value                                  | Reference  | Type                        |
|-----|--|------------|-----------------------------|
| 1   | Beeper, small oval speaker             | BUZ1       |                             |
| 1   | 7805                                   | IC1        |                             |
| 1   | 89C2051 or 89C4051                     | IC2        |                             |
| 1   | 24C16                                  | IC3        |                             |
| 1   | 74HC4040                               | IC4        |                             |
| 2   | 10uF – 47uF                            | C1, C3     |                             |
| 1   | 100nF (marked as 104)                  | C2         |                             |
| 1   | 0.47-1uF                               | C4         |                             |
| 1   | 100nF (marked as 104)                  | C5         |                             |
| 1   | 47pF (marked as 47p)                   | C6         |                             |
| 1   | 68pF (marked as 68p)                   | C7         |                             |
| 1   | Not used                               | C8         |                             |
| 1   | Not used                               | C9         |                             |
| 1   | Flat cable                             | J1         |                             |
| 3   | 1N4148                                 | D1,D3,D4   |                             |
| 1   | Not used                               | D2         |                             |
| 1   | LCD display, see pics for mounting     | J2         |                             |
| 1   | 6.4MHz                                 | Q1         |                             |
| 1   | BS170 (reverse when using 2N7000)      | T1         |                             |
| 1   | Not used                               | T2         |                             |
| 3   | Push button                            | S1, S2, S3 |                             |
| 1   | 10K trimmer resistor                   | P1         | Set LCD contrast with P1    |
| 1   | 56 ohms                                | R1         | Green, Blue, Black, Gold    |
| 1   | 1K                                     | R2         | Brown, Black, Red, Gold     |
| 1   | 330 ohms                               | R3         | Orange, Orange, Brown, Gold |
| 1   | 150 ohms                               | R4         | Brown, Green, Brown, Gold   |
| 1   | 22K                                    | R5         | Red, Red, Orange, Gold      |
| 1   | 1000uH, looks like a greenish resistor | RFC1       | Brown, Black, Red, Silver)  |
| 2   | Bolts for LCD                          |            | Opposite corners            |
| 2   | Screws for LCD                         |            | Opposite corners            |
| 2   | Distancers for LCD                     |            | Opposite corners            |
| 1   | PCB, 90x40mm                           |            |                             |
| 1   | IC socket, DIL 20                      | For IC2    |                             |




**BILL OF MATERIALS FOR LCD CONTROL MODULE (MAX PRO IV+, SE4 DSP+, PCI MAX 2006+)**

| QTY | Value                              | Reference  | Type                        |
|-----|------------------------------------|------------|-----------------------------|
| 1   | Beeper, small oval speaker         | BUZ1       |                             |
| 1   | 7805                               | IC1        |                             |
| 1   | 89C2051 or 89C4051                 | IC2        |                             |
| 1   | 24C16                              | IC3        |                             |
| 1   | Not used                           | IC4        |                             |
| 2   | 10uF – 47uF                        | C1, C3     |                             |
| 1   | Not used                           | C2         |                             |
| 1   | 0.47-1uF                           | C4         |                             |
| 1   | Not used                           | C5         |                             |
| 1   | 47pF (marked as 47p)               | C6         |                             |
| 1   | 68pF (marked as 68p)               | C7         |                             |
| 1   | Not used                           | C8         |                             |
| 1   | Not used                           | C9         |                             |
| 1   | Flat cable                         | J1         |                             |
| 3   | 1N4148                             | D3,D4      |                             |
| 1   | Not used                           | D1, D2     |                             |
| 1   | LCD display, see pics for mounting | J2         |                             |
| 1   | 6.4MHz                             | Q1         |                             |
| 1   | Not used                           | T1         |                             |
| 1   | Not used                           | T2         |                             |
| 3   | Push button                        | S1, S2, S3 |                             |
| 1   | 10K trimmer resistor               | P1         | Set LCD contrast with P1    |
| 1   | 56 ohms                            | R1         | Green, Blue, Black, Gold    |
| 1   | 1K                                 | R2         | Brown, Black, Red, Gold     |
| 1   | Not used                           | R3         | Orange, Orange, Brown, Gold |
| 1   | 150 ohms                           | R4         | Brown, Green, Brown, Gold   |
| 1   | 22K                                | R5         | Red, Red, Orange, Gold      |
| 1   | Not used                           | RFC1       | Brown, Black, Red, Silver)  |
| 2   | Bolts for LCD                      |            | Opposite corners            |
| 2   | Screws for LCD                     |            | Opposite corners            |
| 2   | Distancers for LCD                 |            | Opposite corners            |
| 1   | PCB, 90x40mm                       |            |                             |
| 1   | IC socket, DIL 20                  | For IC2    |                             |





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