Classé

SSP-30

PREAMPLIFIER / PROCESSOR

SERVICE MANUAL
v 1.0

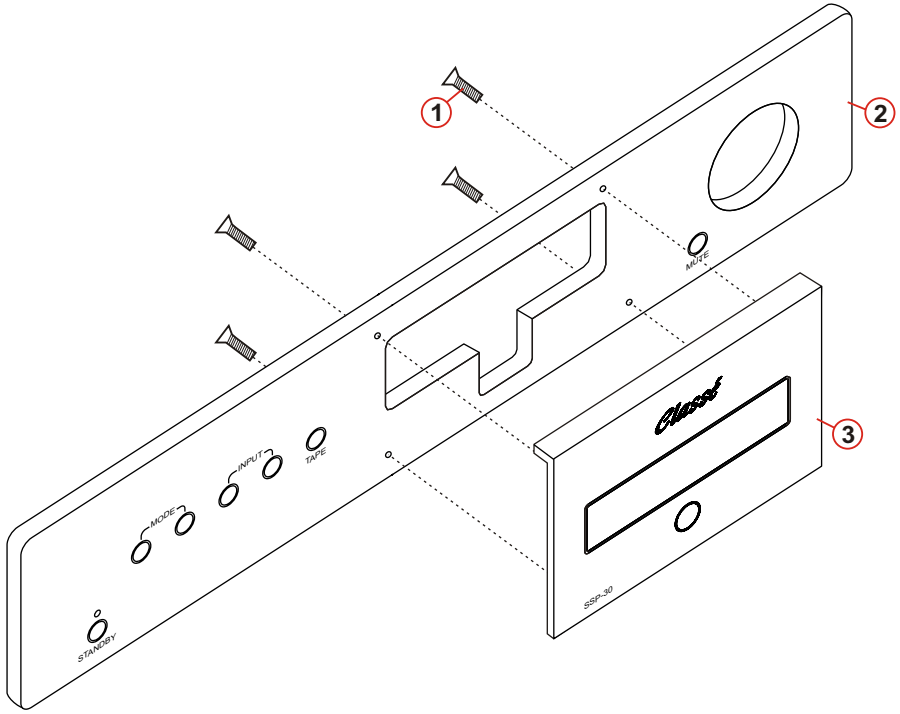
Index

SSP-30

MECHANICAL ASSEMBLY

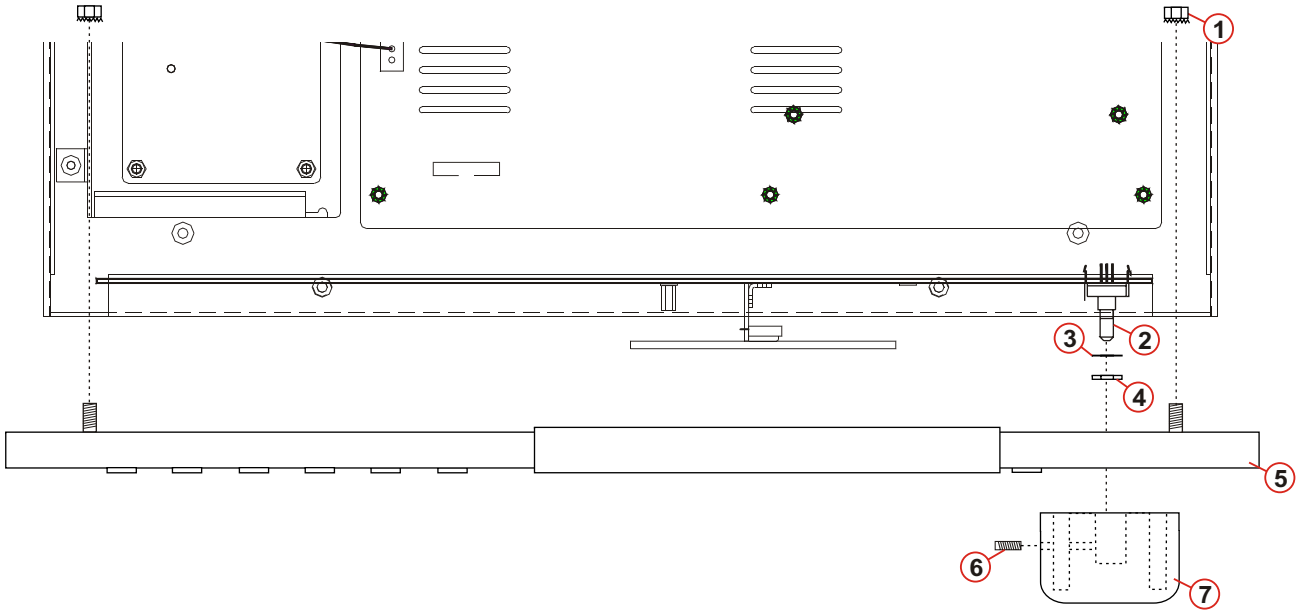
FACE PLATE ASSEMBLY

SSP-30



1 MJ-2347P
2 L2C4XR02
3 L2C3XR02

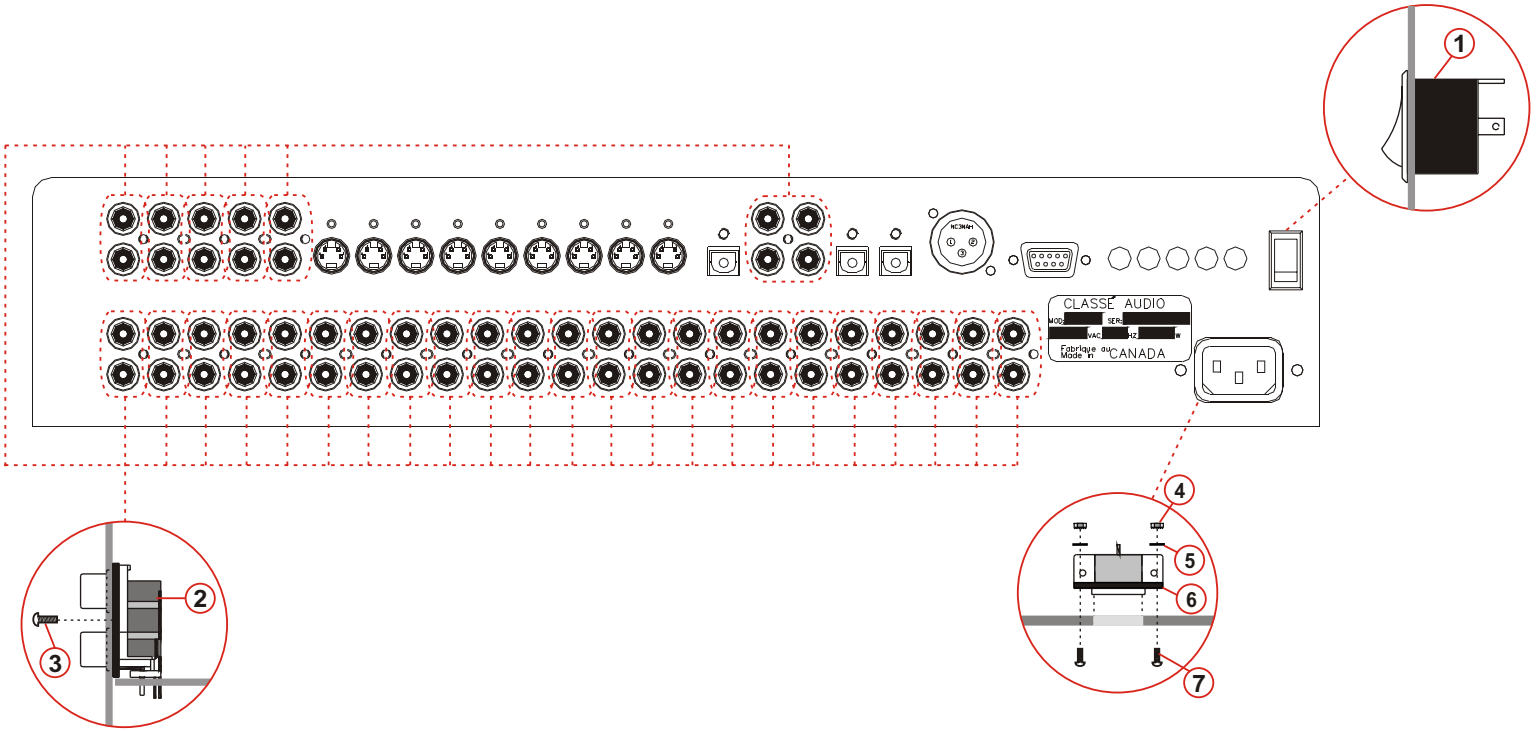
TOP VIEW



1 N-4K
2 SDB161PVB20F
3 Flat Washer
4 Nut
5 L2C4XR02
6 6-32 x 1/4 SHSS
7 L239XR00

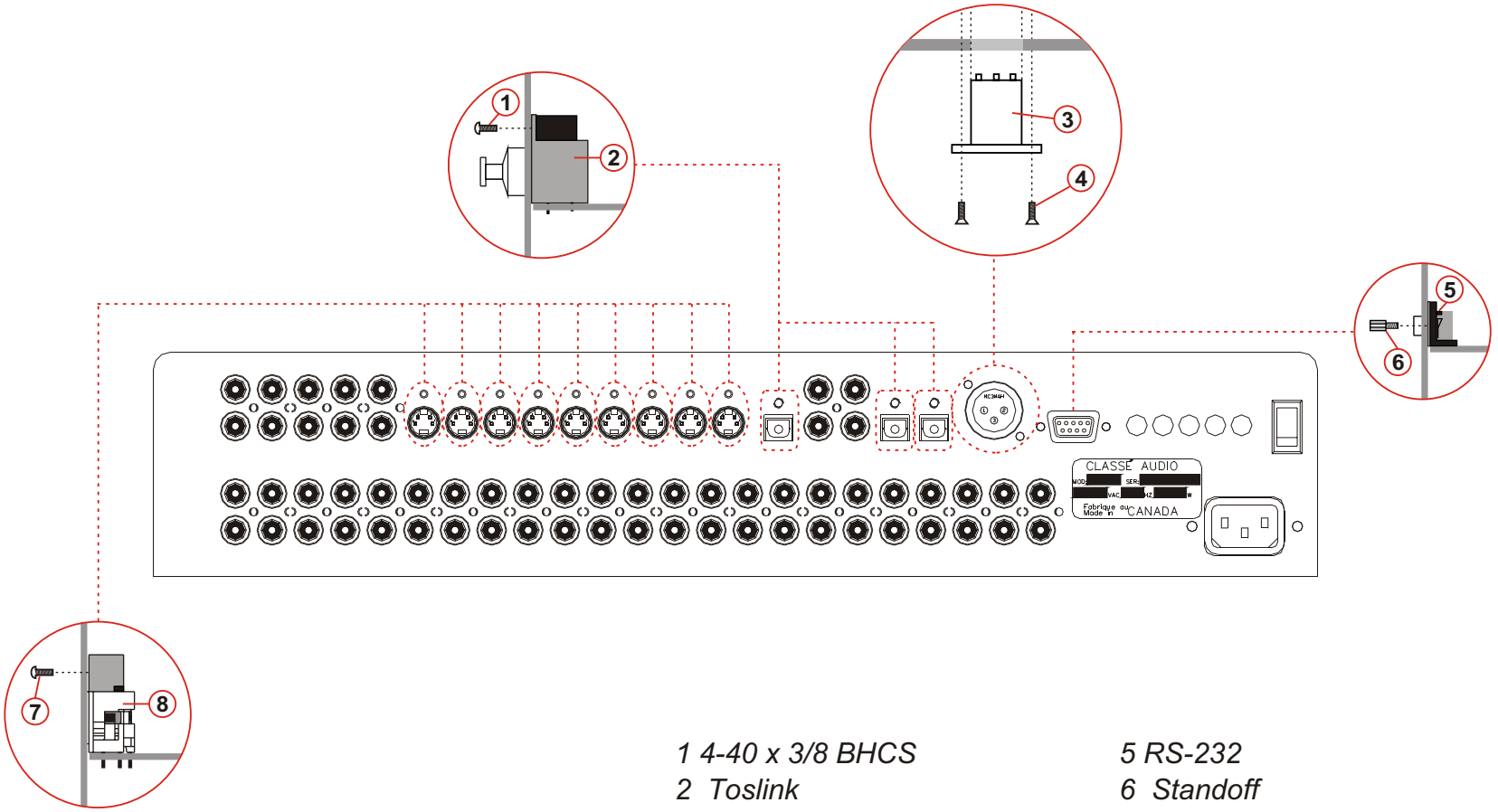
CHASSIS REAR VIEW

SSP-30



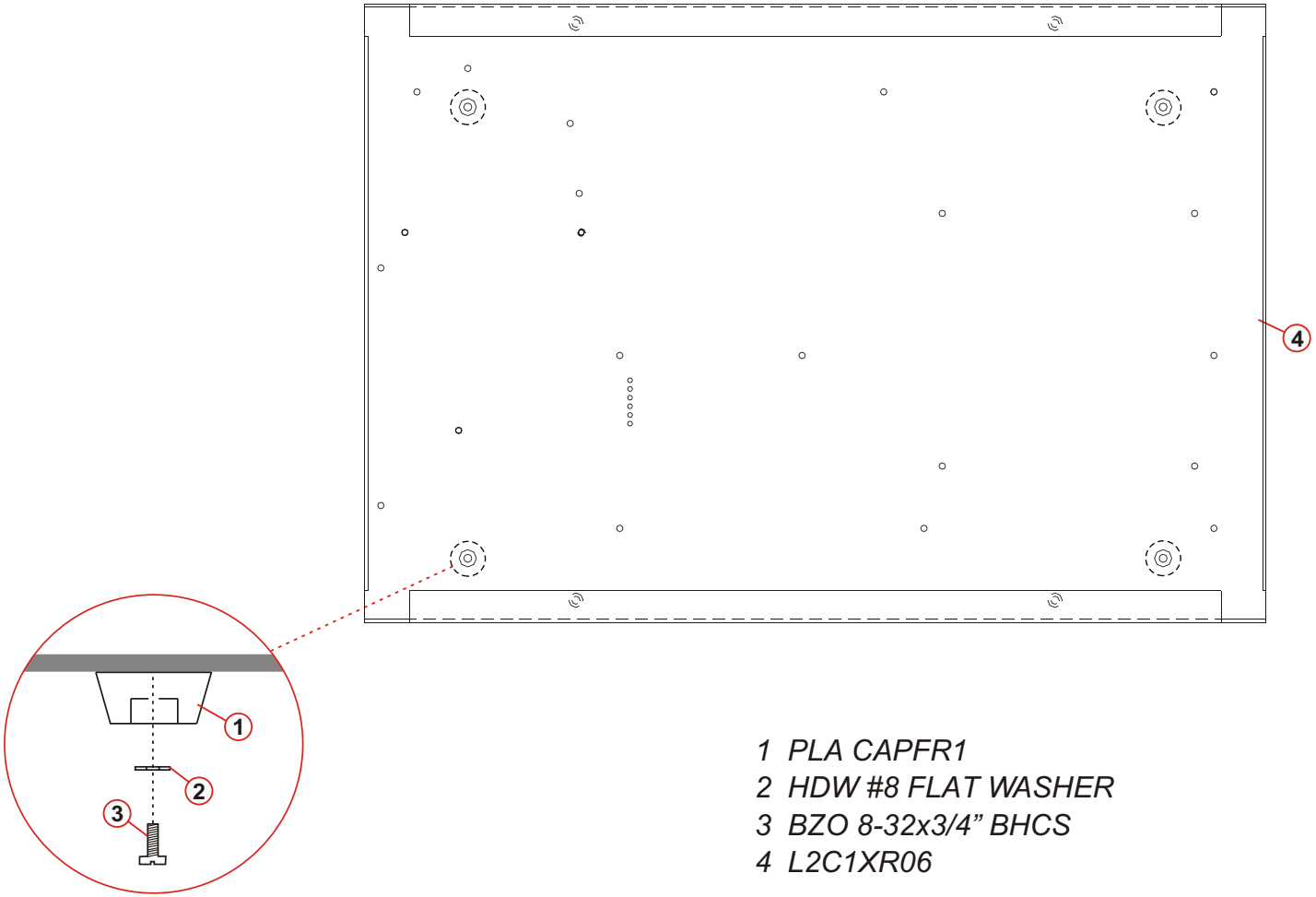
1 D501-J12-S2-15-QA
2 RCA Jack
3 4-40 x 3/8 BHCS
4 N-1K
5 656-042
6 EAC-309
7 6-32 x 3/8 BHCS

CHASSIS REAR VIEW



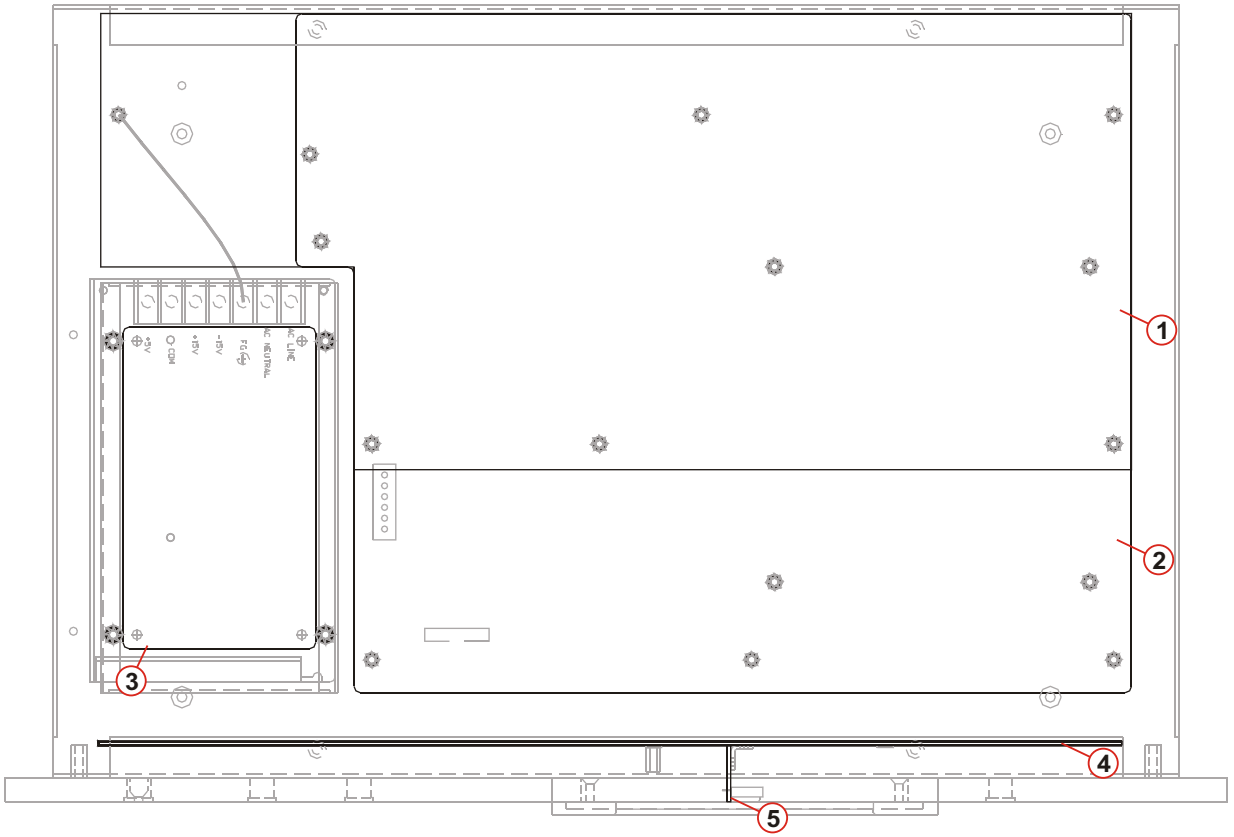
1 4-40 x 3/8 BHCS
2 Toslink
3 XLR
4 4-40 x 3/8 BHCS
5 RS-232
6 Standoff
7 4-40 x 3/8 BHCS
8 S-video Connector

TOP VIEW

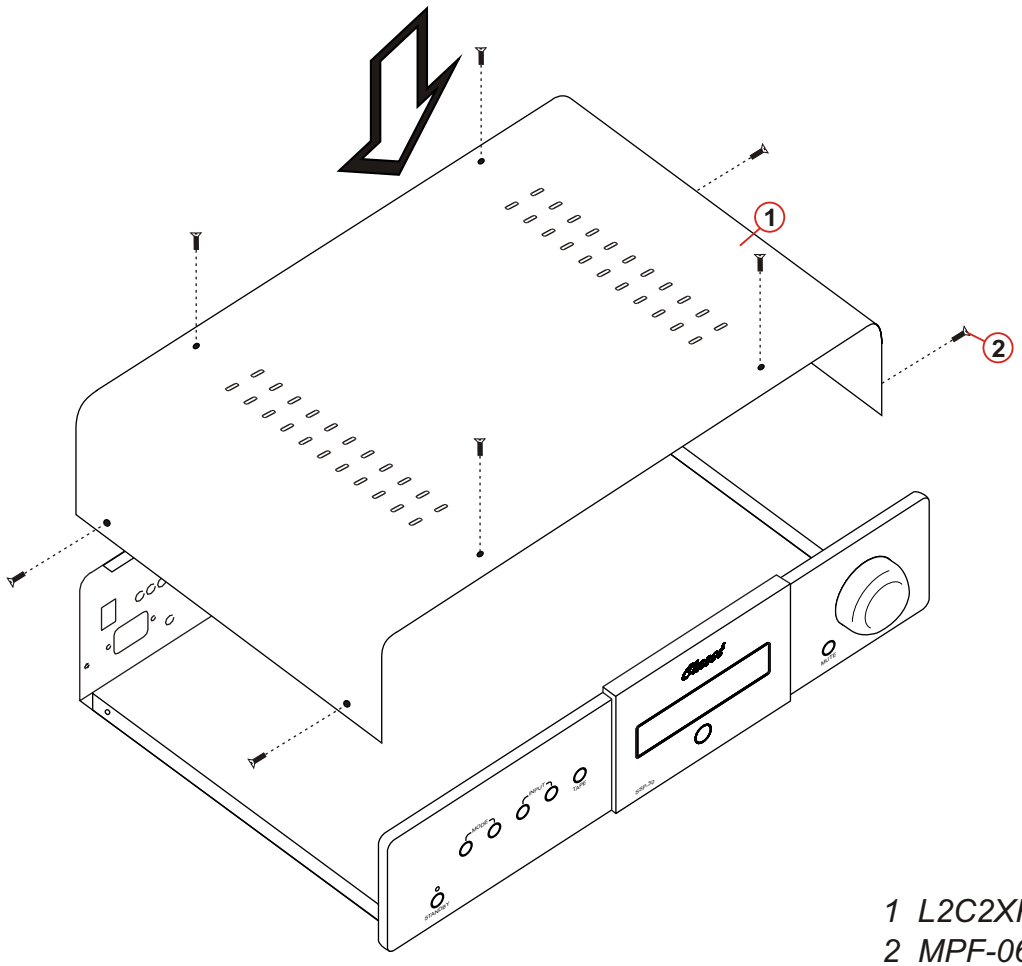


1 PLA CAPFR1
2 HDW #8 FLAT WASHER
3 BZO 8-32x3/4" BHCS
4 L2C1XR06

TOP VIEW



1 TVC-STD TINAN
2 TCM-STD TITAN
3 T-60C
4 B2C4XR02
5 B2CAXR00



1 L2C2XR03
2 MPF-0605-100-BO

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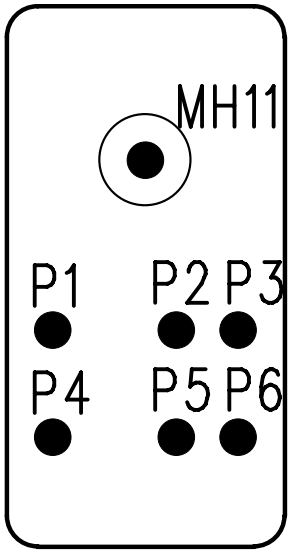
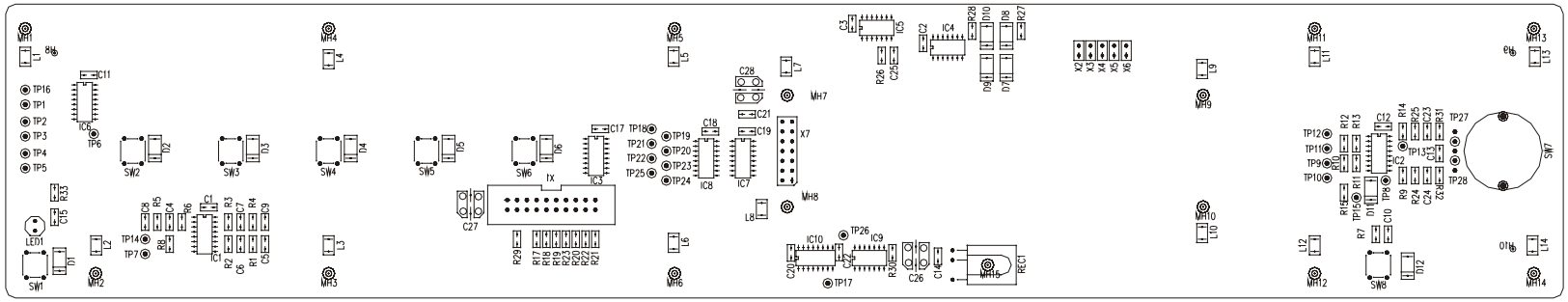
PC BOARDS


MH11
P1
P2
P3
P4
P5
P6



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TESTING PROCEDURES

1-check all wires and components
2-Check screws and bolts
3-Connect the jumpers for 120 Volts
4-Turn the bias all the way to 0 volts
5-Connect the unit in bypass mode
6-Connect the unit with variable transformer
7-Connect speaker cables, regular and balanced inputs
8-Apply 10V AC from variable transformer and check the rail and driver voltages
9-If the unit is OK increase the voltage up to 120V
10-Turn off the unit and remove by pass
11-Turn on the unit and check the rails driver and offset
12-Check the sequence of relay clicking
13-Adjust the bias and offset
14-Check the protection circuit both channels
15-Check the signal with 8 and 4 load in
16-Regular, regular mono, balanced stereo and balanced mono
17-Check noise with small speaker and RCA shorted plug
18-Put in burning bench

1. Before final test unit was 4 days on burn-in-bench with music.
2. Take the unit from burn-in-bench to Q.C and play it immediately. Keep the line 120V A.C.
3. Check physically and check the components.
   -check all capacitor and devices direction. Capacitor stand up right way i.e. check co-solder.
   -check any missing parts.
   -check all fuse sockets.
   -check main board tight up with screw and washer.
   -check any screw missing.
   -check balance lock working smoothly.
   -check all output transistors position with pad.
   -check main transistors position with pad.
   -check main transformer tight very well.
4. Adjust bias 26mV for every output devices for both channels. Wait 7 to 8 minutes after each adjustment. Also adjust offset to 0mV.
5. Measure rail and pre-driver voltage.
6. Measure A.C voltage for bridge.
7. Measure supply voltage for relays. +15V and 15V for both channels. +12V and 12V.
8. Measure reference voltage 8.1V on both channels.
9. Measure reference voltage for protection 78V.
10. After setting the bias, connect load and input signal. Check output signal. Check phase with input signal.
11. Measure frequency response, slew rate, gain, signal to noise ratio.
12. Check the output signal from 20Hz to 20KH with load in following combination. Also measure the output power.
    Regegur-stereo
    Balance-stereo
    Regegur-mono
    Balance-mono
13. Check phone-jack.
14. Check protection on both channels.
15. Check noise with speaker.
16. Put the jumpers and varistor for required A.C voltage.
17. Plug unit again and check rail and pre-driver voltage.

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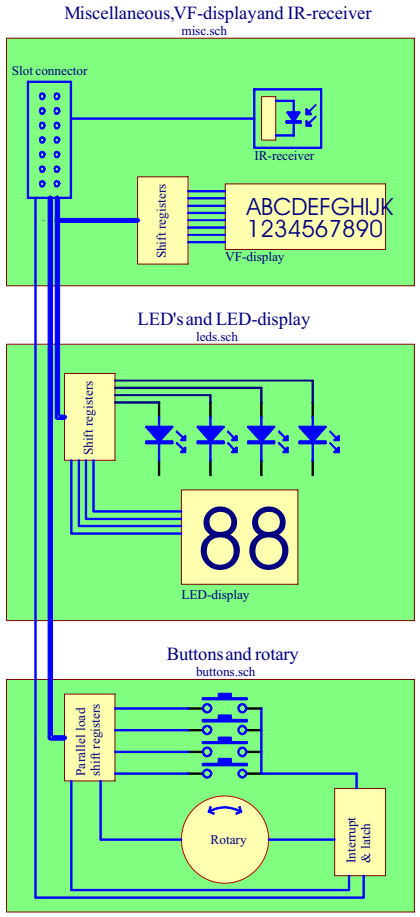
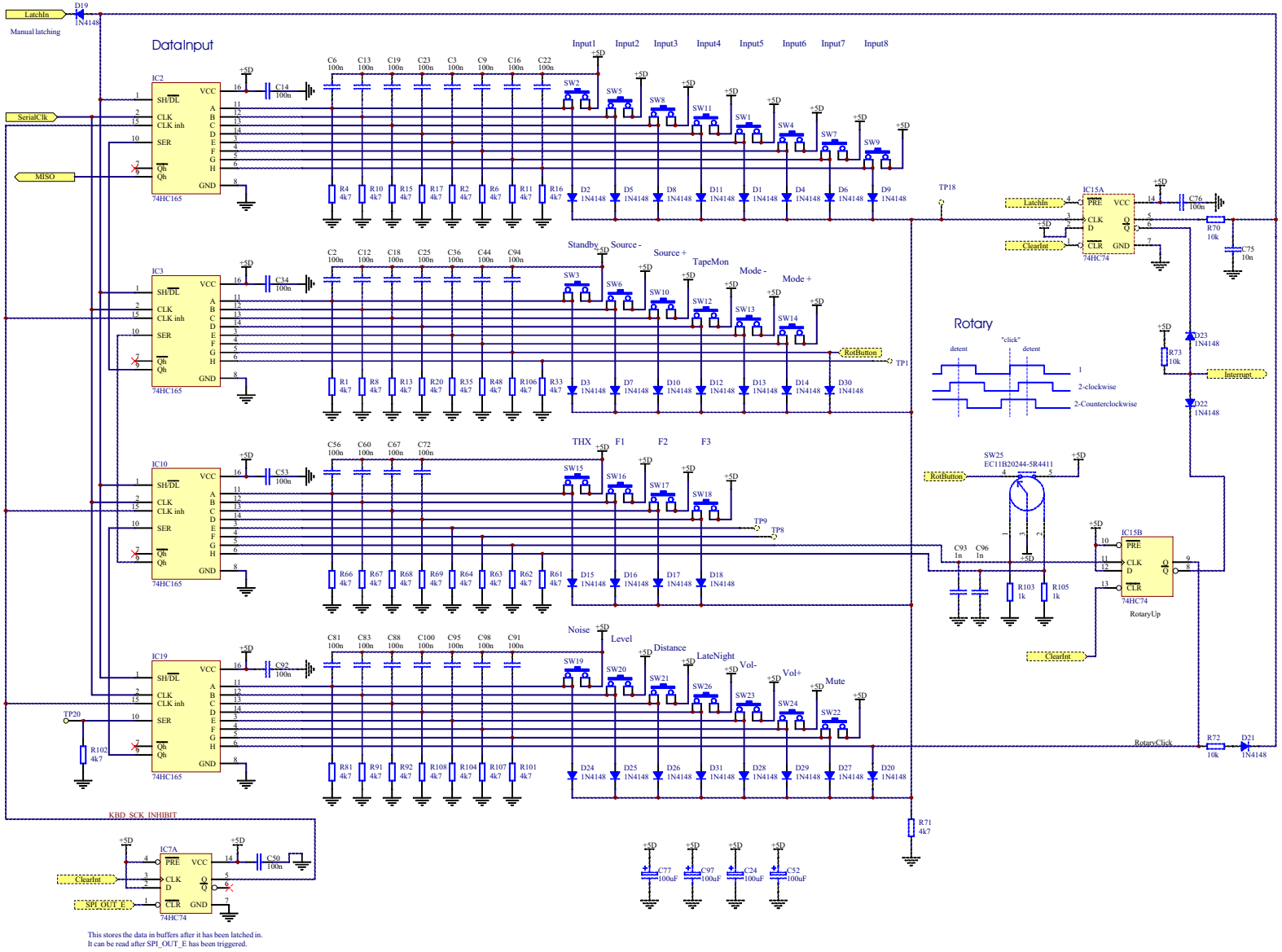
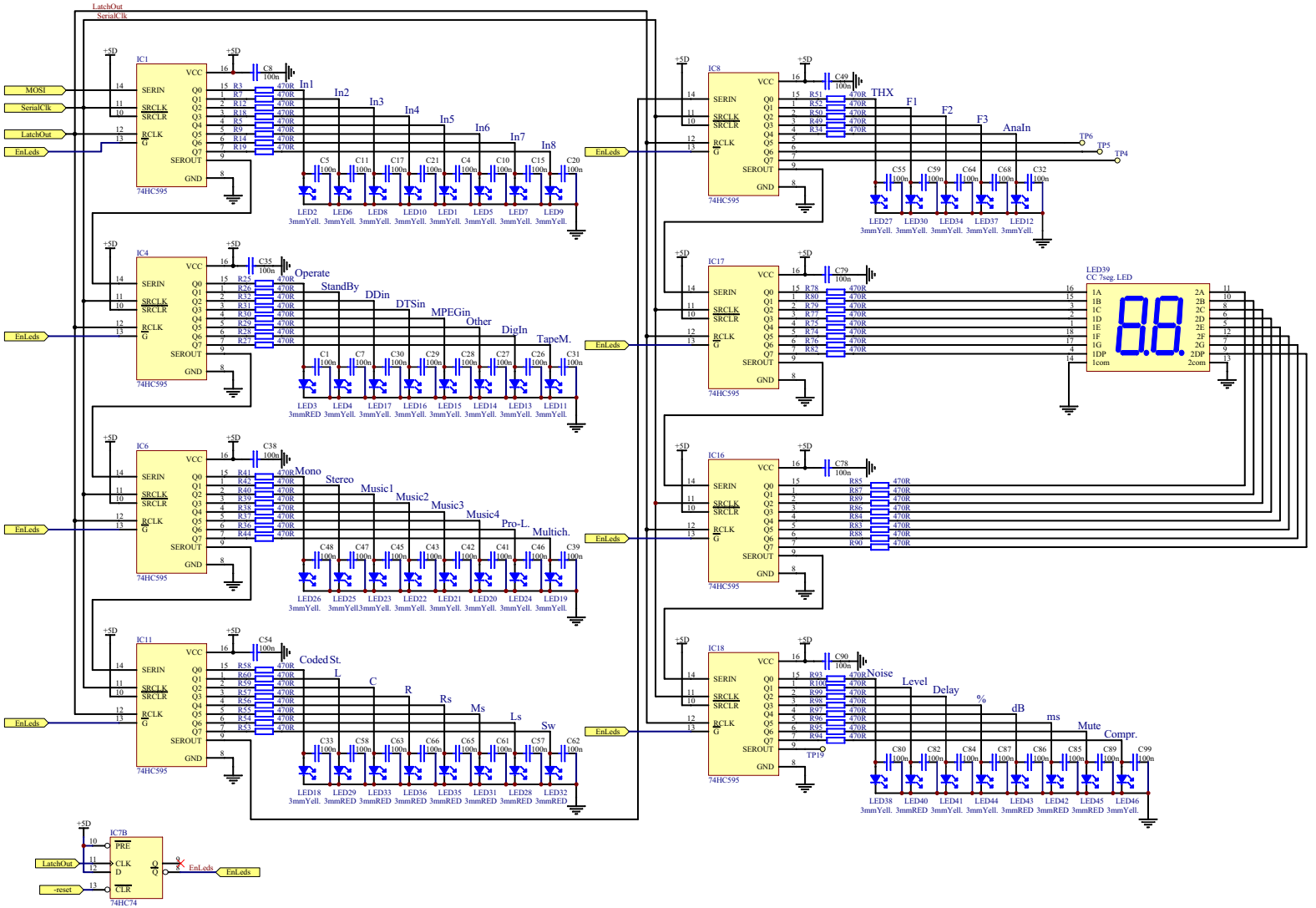
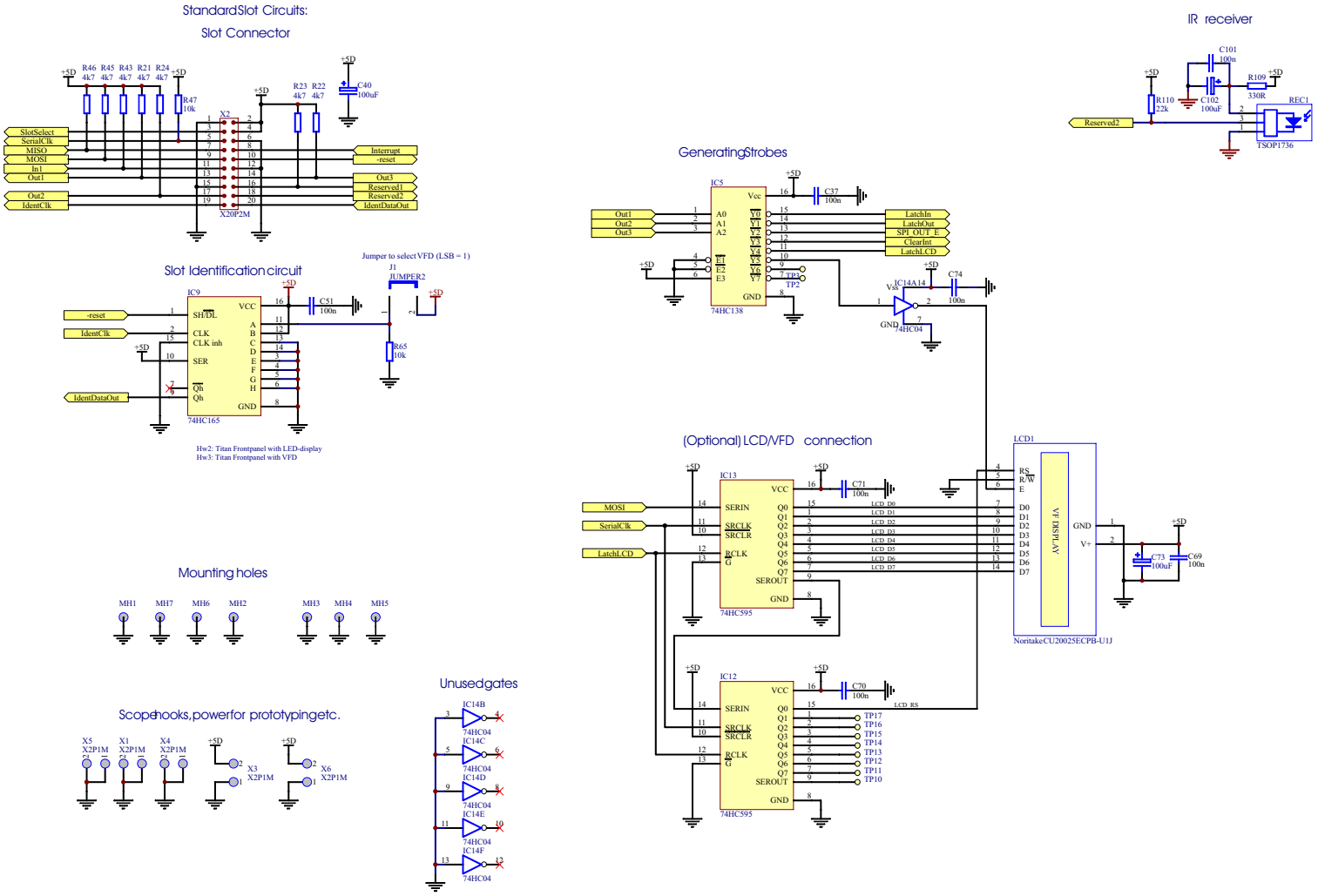
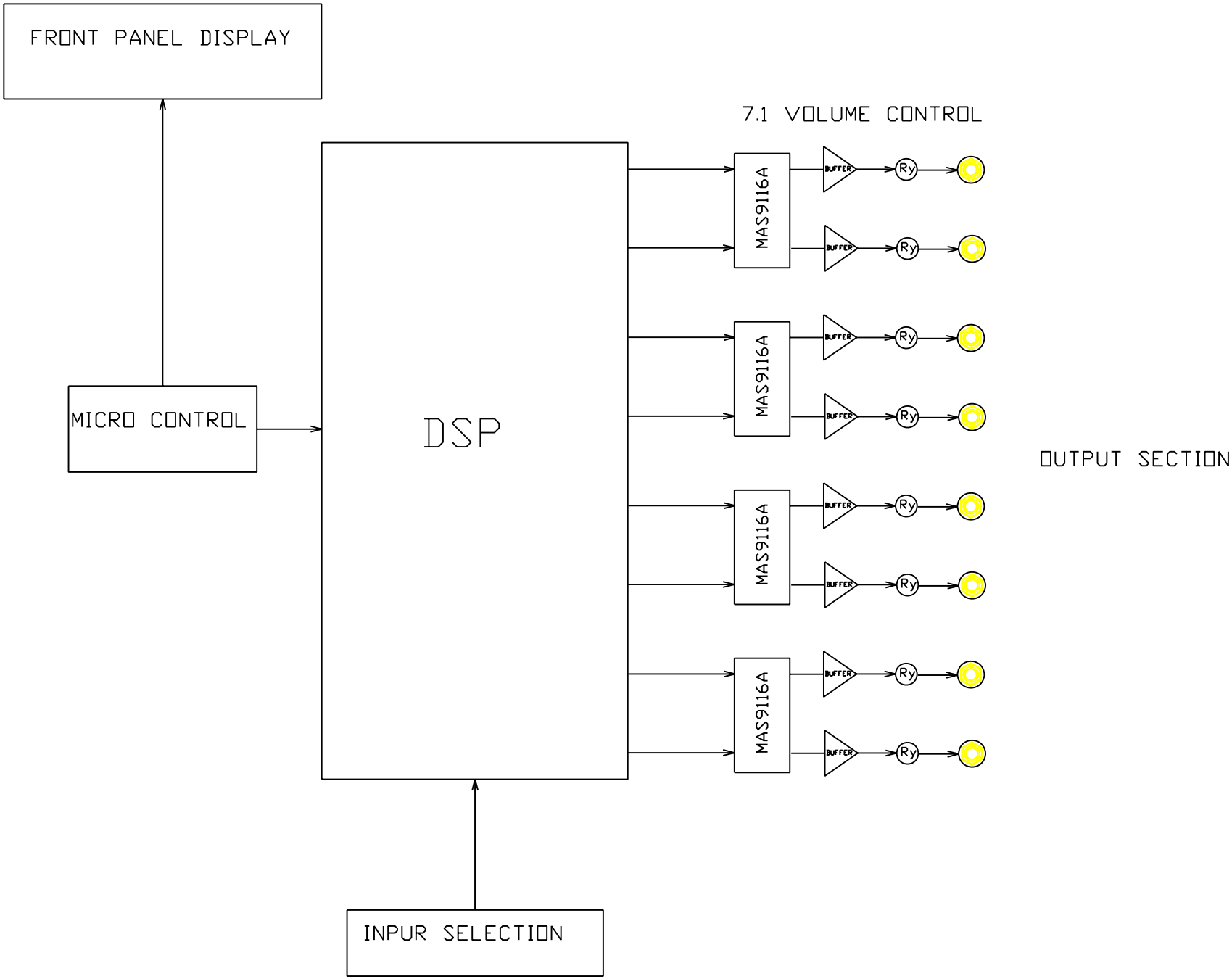
DIAGRAMS


Miscellaneous,VF-displayand IR-receiver
misc.sch
Slot connector
IR-receiver
Shift registers
ABCDEFGHIJK
1234567890
VF-display
LED's and LED-display
leds.sch
Shift registers
88
LED-display
Buttons and rotary
buttons.sch
Parallel load
shift registers
Rotary
Interrupt
& latch

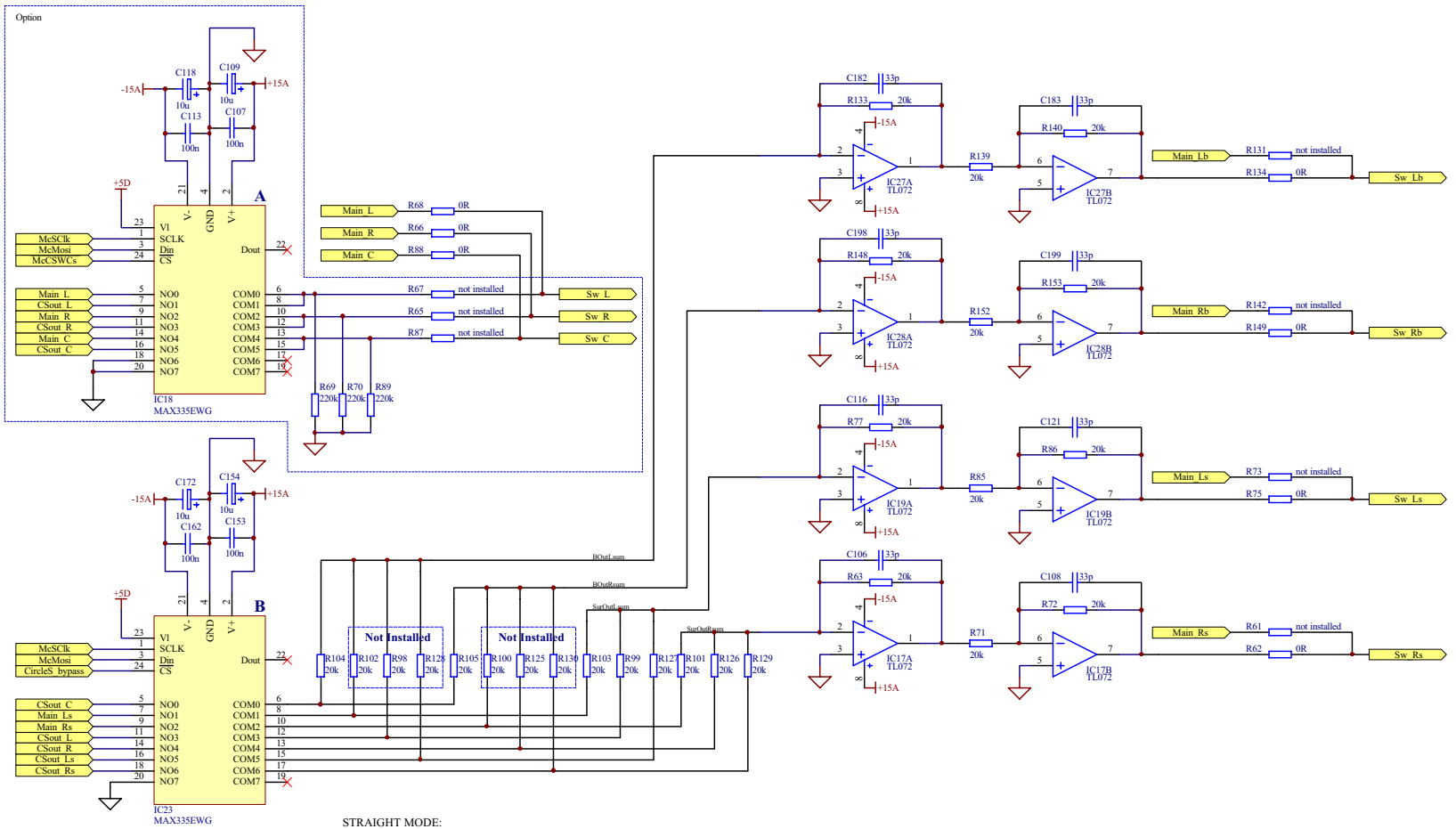

LatchIn
Manual latching
SerialClk
MISO
DataInput
Input1 Input2 Input3 Input4 Input5 Input6 Input7 Input8
Standby Source - Source + TapeMon Mode - Mode +
THX F1 F2 F3
Noise Level Distance LateNight Vol- Vol+ Mute
74HC165
74HC74
Rotary
"click"
detent
1
2-clockwise
2-Counterclockwise
RotButton
SW25 EC11B20244-5R4411
RotaryUp
RotaryClick
ClearInt
KBD_SCK_INHIBIT
SPI_OUT_E
This stores the data in buffers after it has been latched in.
It can be read after SPI_OUT_E has been triggered.


LatchOut
SerialClk
MOSI
EnLeds
IC1
IC4
IC6
IC11
IC8
IC17
IC16
IC18
74HC595
In1
In2
In3
In4
In5
In6
In7
In8
Operate
StandBy
DDin
DTSin
MPEGin
Other
DigIn
TapeM.
Coded St.
L
C
R
Rs
Ms
Ls
Sw
Mono
Stereo
Music1
Music2
Music3
Music4
Pro-L.
Multich.
THX
F1
F2
F3
AnaIn
Noise
Level
Delay
%
dB
ms
Mute
Compr.
LED39
CC 7seg. LED
IC7B
74HC74
-reset


StandardSlot Circuits:
Slot Connector
SlotSelect
SerialClk
MISO
MOSI
In1
Out1
Out2
IdentClk
Interrupt
-reset
Out3
Reserved1
Reserved2
IdentDataOut
X20P2M
Slot Identification circuit
Jumper to select VFD (LSB = 1)
74HC165
Hw2: Titan Frontpanel with LED-display
Hw3: Titan Frontpanel with VFD
IR receiver
TSOP1736
GeneratingStrobes
74HC138
74HC04
(Optional) LCD/VFD connection
74HC595
NoritakeCU20025ECPB-U1J
Mounting holes
MH1
MH7
MH6
MH2
MH3
MH4
MH5
Scopehooks,powerfor prototypingetc.
Unusedgates
74HC04


FRONT PANEL DISPLAY
7.1 VOLUME CONTROL
MICRO CONTROL
DSP
MAS9116A
MAS9116A
MAS9116A
MAS9116A
BUFFER
Ry
OUTPUT SECTION
INPUR SELECTION

"EX-S" bypass, CS mode



STRAIGHT MODE:

pass Main_Ls (COM1),
Main_Rs (COM2)

CIRCLE SURROUND MODE:

pass CSout_C (COM0),
CSout_L (COM3),
CSout_R (COM4),
CSout_Ls (COM5),
CSout_Rs (COM6)

In CS-mode back channel receives CsC-channel,
while CsL and CsLs are summed to Ls and CsR and CsRs are summed to Rs.

Title: **MHTA1 MHT-100 Audio board 1**

Project: **Circle surround switching**

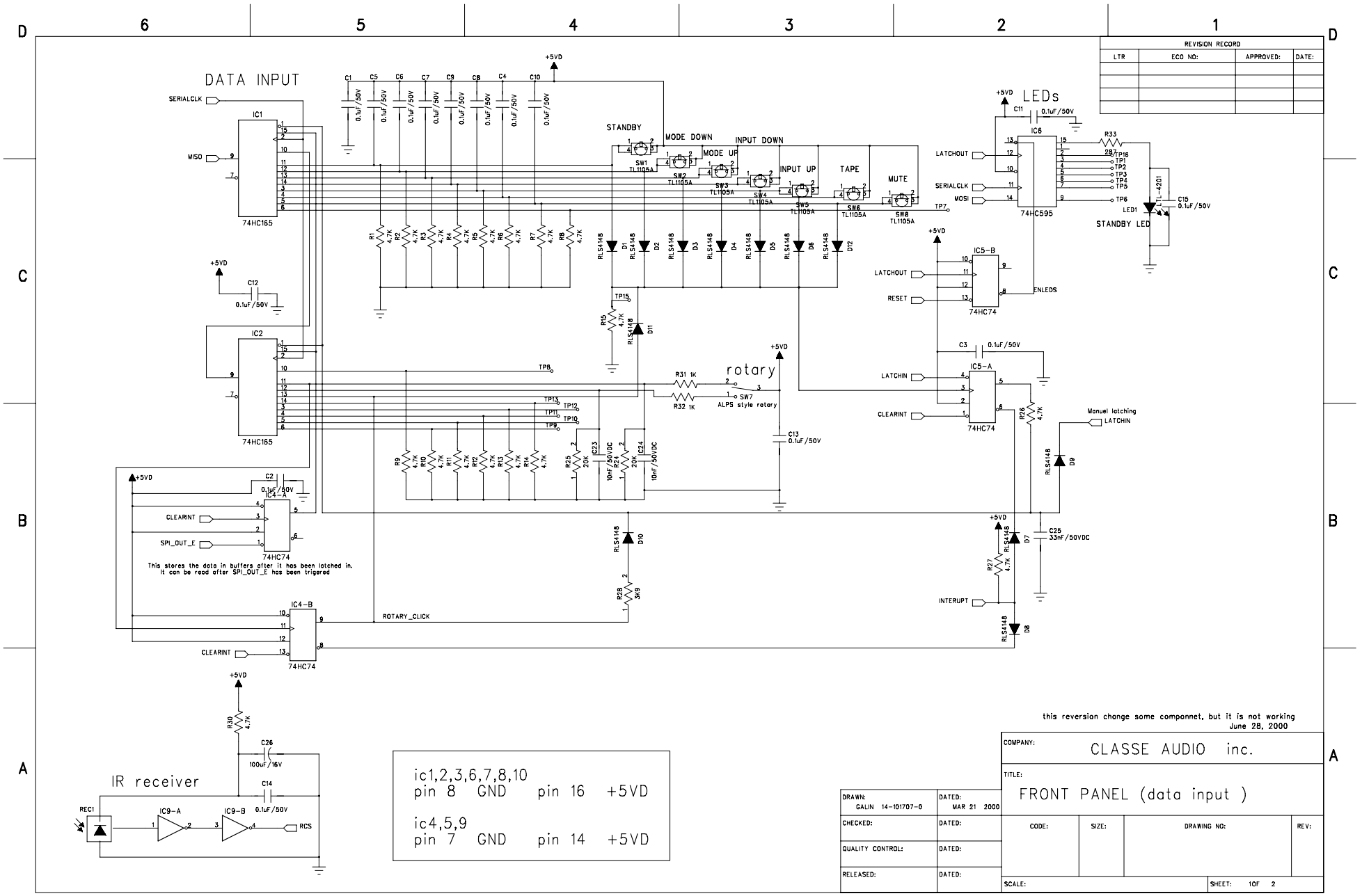
Sample Rate Systems Oy
Finlaysoninkatu 2
33210 Tampere, Finland

tel. + 358 3 254 2000
fax + 358 3 254 2030

Sheet: 1 of 7 , revision 1.0

Printed: 22-Feb-2001 , drawn by Vesa Koli

File: C:\MHT-project\MHTV2\MHTA1-v2\MHTA1-V21.DDB - Documents\MHTA1_Circle

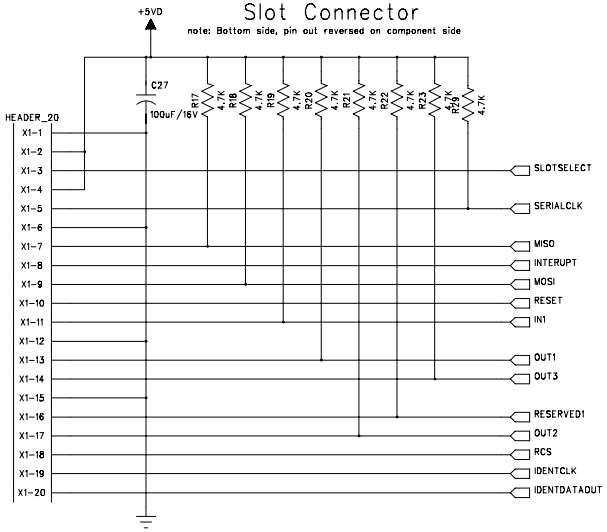


REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

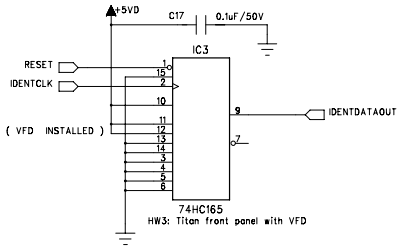
REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

Slot Connector

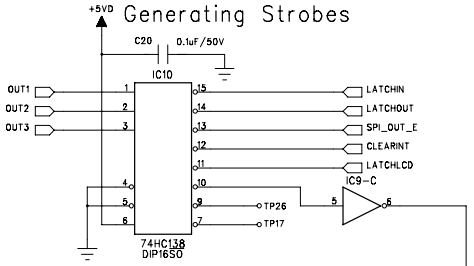
note: Bottom side, pin out reversed on component side



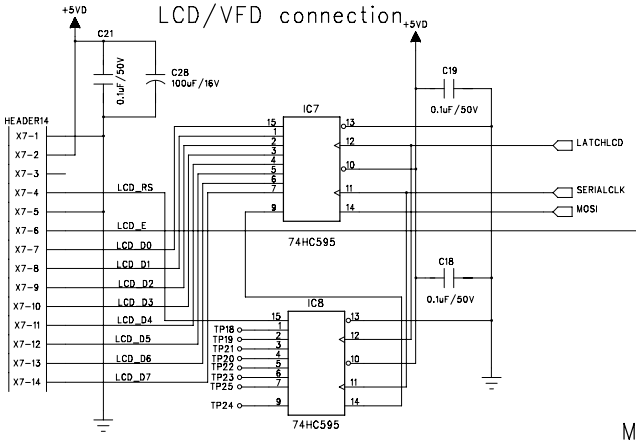
Slot Identification circuit



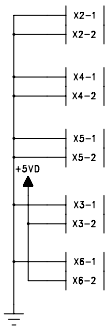
Generating Strobes



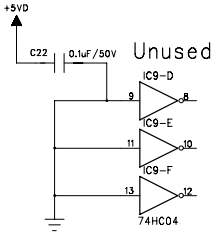
LCD/VFD connection



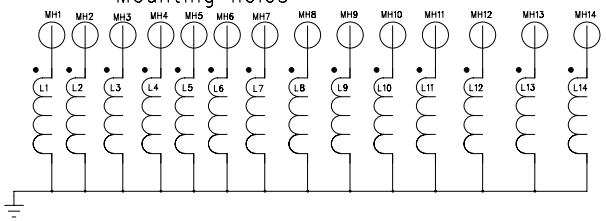
Scope hooks, power for prototyping ect



Unused gates



Mounting holes



ic1,2,3,6,7,8,10
pin 8 GND pin 16 +5VD

ic4,5,9
pin 7 GND pin 14 +5VD

DRAWN: GALIN 14-101707-0	DATED: MAR 21 2000
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

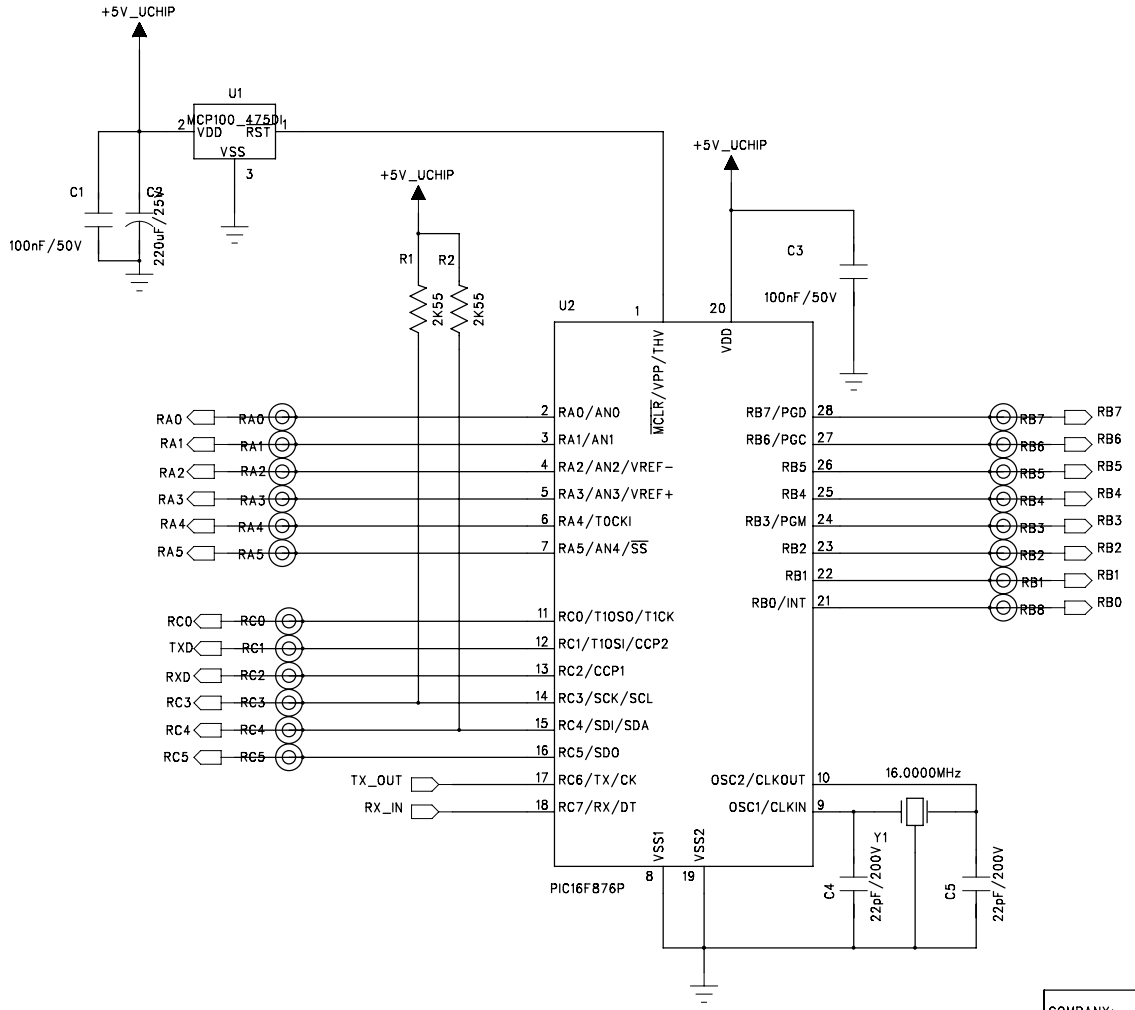
COMPANY: CLASSE AUDIO inc.

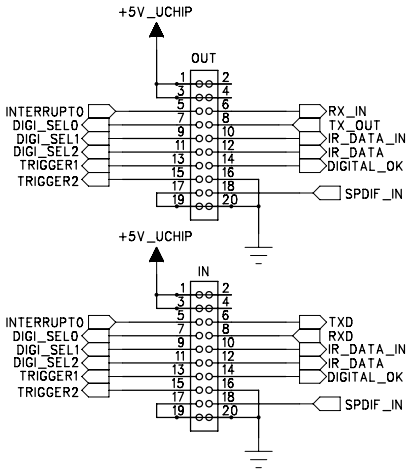
TITLE: FRONT PANEL (LCD/VFDinterface)

CODE:	SIZE:	DRAWING NO:	REV:

SCALE: SHEET: 2 OF 2

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:





X1
NONE

DRAWN:	DATED:
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

COMPANY: CLASSE AUDIO INC.

TITLE: BAUD RATE CONVERTER

CODE:	SIZE:	DRAWING NO:	REV:
		B2C5XR02	

SCALE:

SHEET: 1 OF 1

SSP-30 Generation 6 Upgrade Procedure

1. Remove the unit's cover by removing the 8 Philips screws. There are 4 on top and 2 on each side.

2. Remove the Video Board. To remove the Video Board first remove the 17 #4 hex screws that secure the board to the rear panel of the unit. **Please note** that the screw located between the Composite Video Out and the S-video In is attached to the rear panel with a 3/16 keep nut. Remove the two 3/16 nuts that secure the RS232 Port to the rear panel. Next disconnect the three ribbon cables from the Video Board. Remove the eight #4 hex screws that secure the board to the standoffs. Remove Video Board.

3. Remove (Generation 5) DSP Board. To remove the DSP Board remove the four #4 hex screws that secure the board to the standoffs.

4. Install (Generation 6) DSP Board. Align the new board so that the connectors in line. Place the new board on the standoffs making sure the connector seats properly. Reinstall the four #4 hex screws. Do not over tighten.

5. Replace Video Board by reversing step 2. Make sure that the ribbon cables are properly aligned with the connectors on the Video Board.

6. Connect the upgraded SSP-30 to the programming computer with a serial cable (9 pin) and the supplied baud rate converter. The cable goes between the serial port of the programming computer and the baud rate converter which should be plugged into the RS232 port on the back of the unit.

7. Open/Run the upgrade software (SSP30.customizer.exe).

8. From the menu, select Classe_SSP30_GEN6_VO1.cfg

9. Update the configuration file using the **Update Button**.

10. Verify the connection using the **Check Connection Button**. If the connection fails, check the power and data cable connections. **Note**. The SSP30 must be powered on during this procedure.

11. When the connection shows "live", use the **Configure Button** to configure the unit.