B22 ORCA
CONTROL ROOM MONITOR
QUICK START GUIDE
rev A

SECTIONS:

1. Jumper settings for Avid Delay Compensation and DAC Filter
2. Installation
3. Signal Flow Diagram
4. Calibration Settings
5. Front Panel Control
6. Rear Panel DSUB25 Connections

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May 7, 2020

1. JUMPER SETTINGS for “JP2”

Jumper A - DAC Filter Setting: In default mode with no jumpers set (Image 1), the B22 Orca uses the Short Delay Filter with the classic “Burl Sound”. A jumper on A (Image 2) will switch to the Long Delay Filter, with longer latency and a more forward mid-range.

Jumper B - AVID Delay Matching: In default mode, there is no added delay. Setting a jumper on B (Image 3) will increase delay to match the output delay of an Avid HDIO.

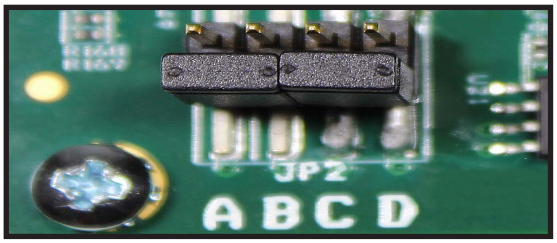

Image 1: (Default Jumper Settings) Short Delay Filter, no added latency, classic “Burl Sound”.

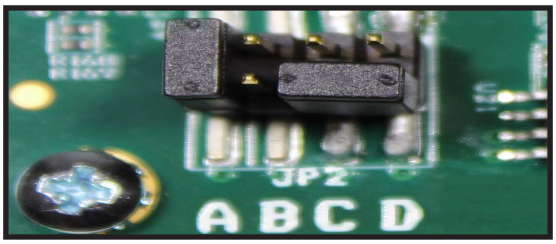

Image 2: (Jumper on A) Long Delay Filter, longer delay, more forward mid-range.

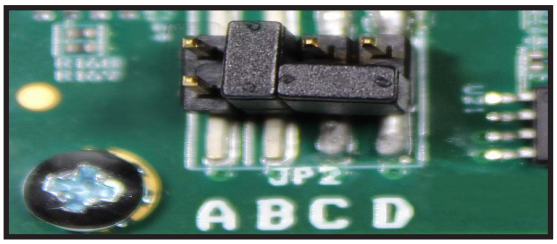

Image 3: (Jumper on B) Short Delay Filter, AVID delay matching, classic “Burl Sound”.

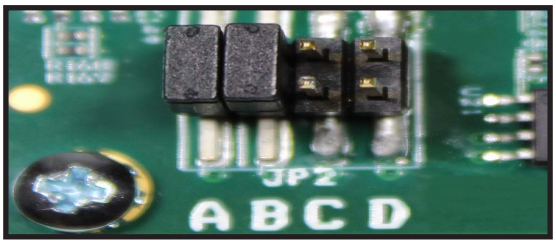

Image 4: (Jumper on A & B) Long Delay Filter, more forward mid-range, AVID delay matching. ***(see chart below)**

This chart shows different DAC filter delay, sound and AVID delay compensation according to jumpers on A and B.

CONFIG A: Jumper DAC Filter Select	CONFIG B: Jumper AVID Delay Match	DAC Filter Delay	Sound	AVID Delay Compensation					
				44k.1	48k	88.2k	96k	176.4k	192k
No	No	Short	Normal BURL	No	No	No	No	No	No
Yes	No	Long	Forward mid-range	No	No	No	No	No	No
No	Yes	Short	Normal BURL	Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Long	Forward mid-range	Yes	Yes	*NOTE	*NOTE	*NOTE	*NOTE

***NOTE:** AVID delay matching applies to all sample rates for the Short Delay Filter, but only to 44.1k and 48k for the Long Delay Filter. **To match the delay of AVID at 88.2k, 96k, 176.4k, and 192k with the Long Delay Filter, use the Hardware Insert Delay in Pro Tools.**

Image 5: B22 ORCA side view

2. INSTALLING B22 INTO B80 MOTHERSHIP CHASSIS

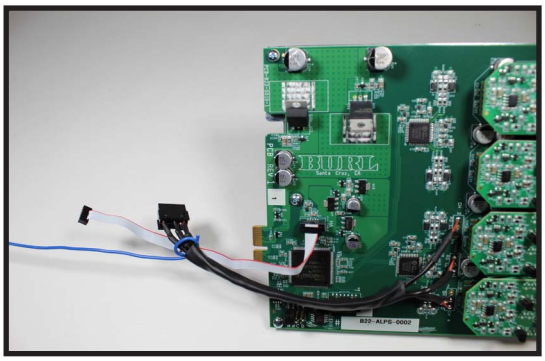

Image 6: Use the provided solid core wire to wrap around the cables and pass through from the rear of the chassis to the front as shown above.

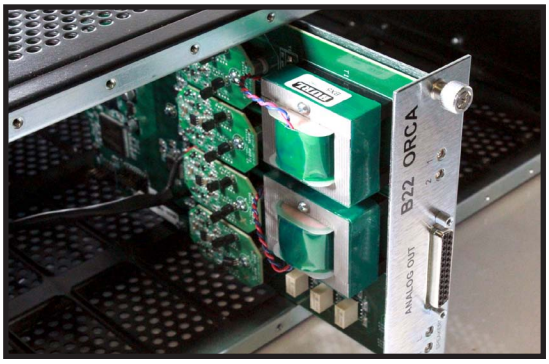

Image 7: When installing the B22 Orca into the B80 Chassis, make sure the metal Daughter Card backplate (not the PCB) is inserted into the card guides.

Image 8: Pull the cables towards the front of the unit.

Image 9: Attach the digital and analog connections to the front panel. Attach the front panel to the chassis using the thumb screws.

INSTALLING THE B22 INTO THE B16 MOTHERSHIP CHASSIS

Image 10: With the B16 lid removed, install the B22 Orca into the card guides as shown here. Make sure the metal Daughter Card backplate (not the PCB) is inserted into the card guides.

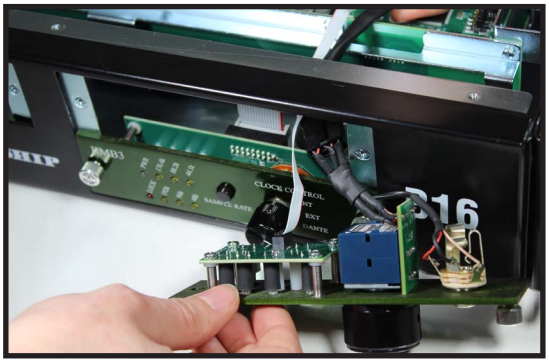

Image 11: Pull the cables through to the front of the chassis. Attach the digital and analog connections to the front panel. Attach the front panel to the chassis using two thumb screws.

3. B22 SIGNAL FLOW DIAGRAM

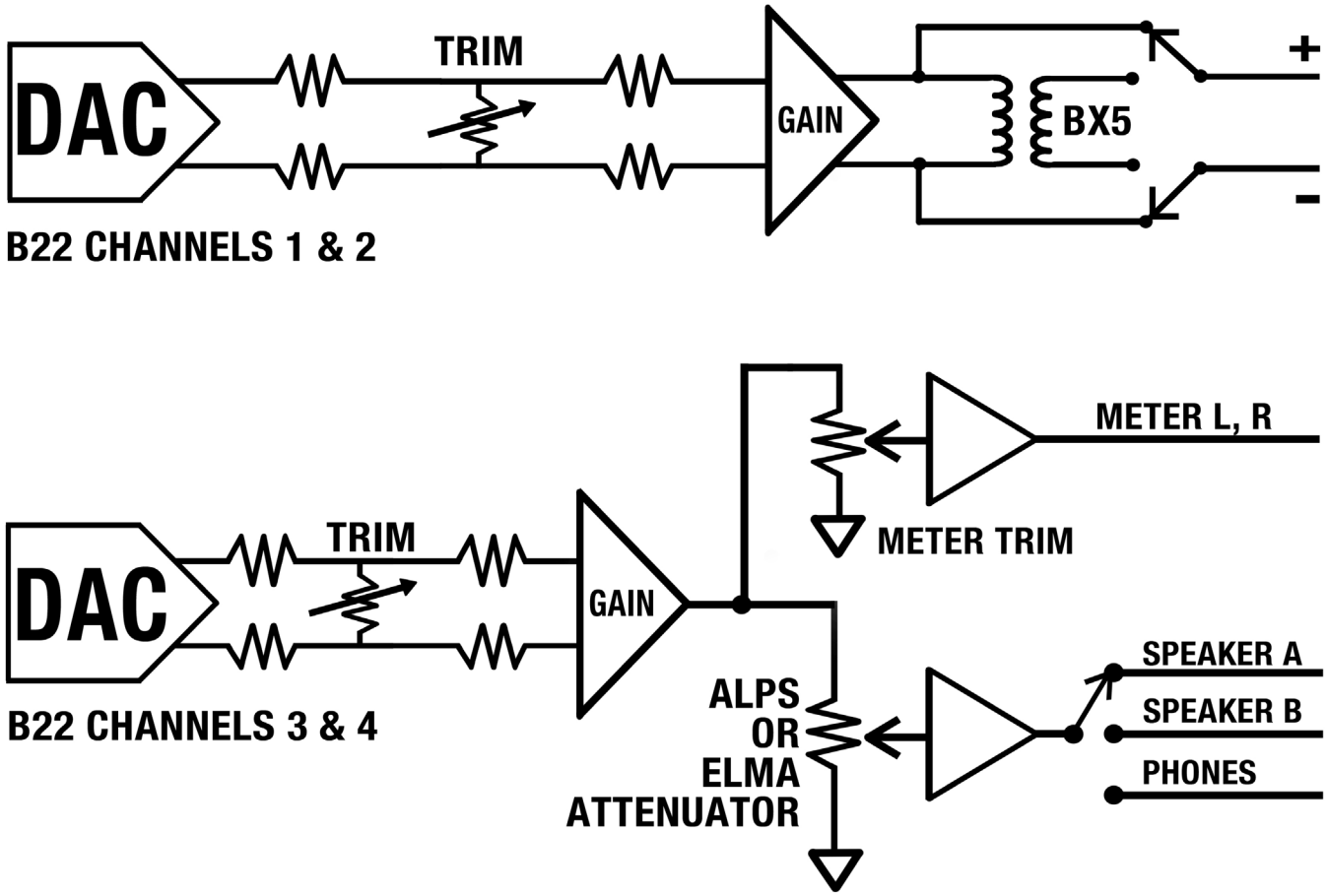

Image 12: B22 signal flow diagram

4. CALIBRATION SETTINGS

- Channels 1 and 2 are calibrated to +4dBu = -18dBFs,
  +22dBu max line level (see image 14 for trim)
- Channels 3 “L” and 4 “R” speaker outs calibrated to +4dBu = -12dBFs,
  +16dBu max speaker level (see image 14 for trim)
- Meter calibrated to +4dBu = -18dBFs,
  +22dBu max line level

  ***NOTE: Meters must be calibrated after channels 3 and 4.**

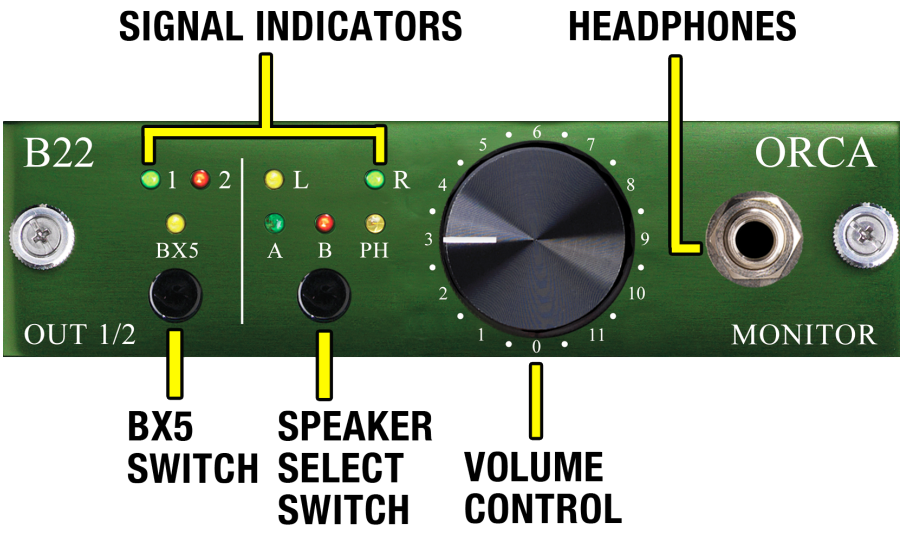

Image 13: B22 front panel

5. SPEAKER SELECT SWITCH

Speaker Select Switch cycles these four settings:

1 - MUTE (Power on state)
2 - Speakers A
3 - Speakers B
4 - Headphones

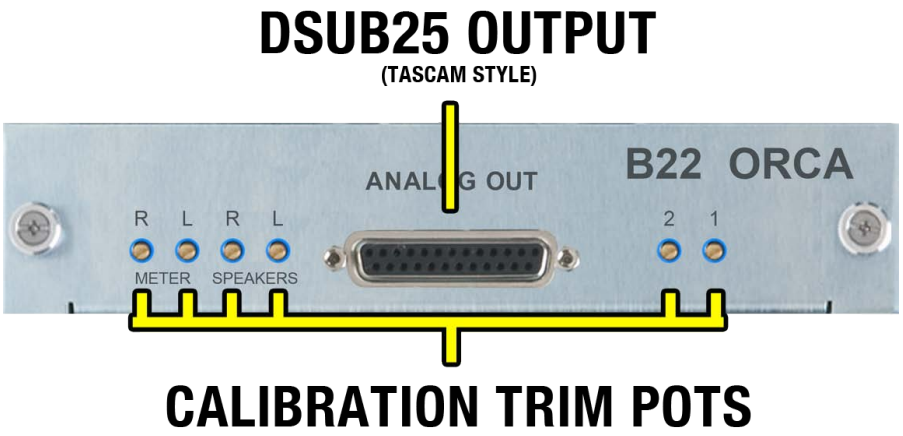

Image 14: B22 rear panel

6. DSUB25 CHANNEL MAPPING

DSUB channel:

1 - Channel 1 Out (switchable BX5)
2 - Channel 2 Out (switchable BX5)
3 - Speaker A Left
4 - Speaker A Right
5 - Speaker B Left
6 - Speaker B Right
7 - Meter Left
8 - Meter Right