

**SUBJECT: Replacing NetWave Monitor & Output or DSP cards**

**PRODUCT: NetWave consoles**

**URGENCY: As Required**

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**PAGES: 3**

**REASON FOR THE BULLETIN: To detail the procedure to remove and replace a NetWave Monitor & Output card or a NetWave DSP card.**

To replace either type of card all audio and logic connections to the card being replaced must be unplugged. The adjacent card may also need its audio & logic cabling removed as well when two cards share a common connector cover panel (as in the case with the Monitor & Output card and first DSP card). On early NetWave consoles a single connector cover panel covered all cards. In this design all cables must be unplugged in order to change any card.

When a DSP card is replaced, the four Dual Fader panels plugged into that card must be removed so their red CAT-5 cables (and blue CAT-5 cables for Dual Selector or Dual Router panels) can be unplugged from that DSP card. When the Monitor & Output card is replaced, the Monitor Control panel must be removed to unplug its red CAT-5 cable and to access card mounting screws (the Monitor & Output card extends below the Monitor Control panel).

## 1. With the console powered off, remove the Meter assembly

On consoles with Reflective Meters, remove the reflector (two 7/16" retaining screws, installed from the rear, are used to hold the reflector in place). Remove the metal Window Retainer (two black flathead screws) and the plastic Meter Window. Remove all meter assembly mounting screws (three to five Phillips screws, by console size) from the front of the meter assembly, just above the dual fader panels. Lift the meter assembly up just enough to unplug its flat cable from J23, and the cue speaker cable from J25, on the Monitor & Output card.

On consoles with DirectView Meters, lift off the rear cover to reveal the five Phillips screws along the rear of the meter assembly. Remove these screws. Also remove the two small black screws from behind the cue speaker. Lift the meter assembly straight up and off the chassis (some prying or wiggling of the panel may be required to release the tabs along the front of the assembly, especially on NW-24 consoles). Unplug the flat cable from J23, and the cue speaker cable from J25, on the Monitor & Output card.



DIRECT VIEW METER MOUNTING SCREWS

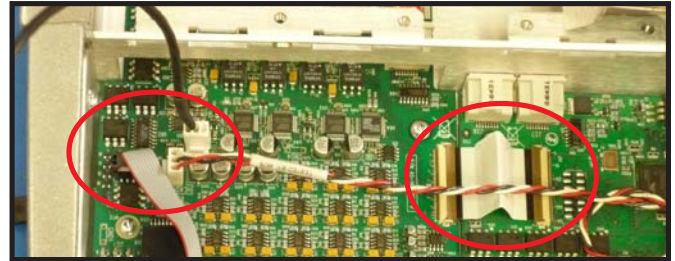
## 2. Remove the connector cover panel from the card being replaced

Split cover panels are held in place using two 7/16" Phillips screws for each DSP card and three 7/16" screws for the Monitor & Output / first DSP cover panel. Early consoles used a one piece cover panel with five 7/16" screws on a NW-16 or seven 7/16" screws on a NW-24. Lift the cover panel up and off exposing the circuit card or cards.

### 3. Unlatch and remove the flat cable(s) on the card being replaced

The Monitor & Outboard card, and the last DSP card, connect to their adjacent cards using one flat cable. On NW-16 and NW-24 consoles, the middle DSP card connects to cards on each side so you must unlatch and lift off two flat cables to replace these cards.

The flat cables tie the cards together. Each folded flat cable is latched in a connector on each card. To unlatch a flat cable, use your thumbnail to flip up/open the dark brown latch. Use as minimal force as possible. Once each latch is opened the flat cable is lifted out of the two connectors.



METER CABLES & FLAT CABLE AND CONNECTORS

### 4. Remove the defective card

The Monitor & Output card uses seven Phillips screws to hold it to the bottom chassis. Note that half of the card extends below the Monitor Control panel. This part of the card has a heatsink, with a sticky gasket, underneath the FPGA. This heatsink and gasket will most likely stick to the card requiring that the card be lifted up slightly to clear chassis standoffs. In addition, when the heatsink is stuck to the Monitor & Output card, removing the card can be a bit tricky since there is limited clearance below a chassis cross piece that goes across the middle of the card. Use care to prevent damaging any surface-mount components on the card.

Pry off the heatsink/gasket and set it on the chassis before installing the replacement Monitor & Output card.

A DSP card also uses seven screws to mount it to the chassis. In addition, the last DSP card has a termination resistor pack (RN1) set in a socket. If this DSP is replaced, make sure to remove the resistor pack (use a Greenie to pry it out of its socket) and install it on the replacement DSP card. No other DSP card should have the RN1 resistor pack installed.

### 5. Install the replacement card

When installing a replacement Monitor & Output card, make sure the heatsink/gasket is set onto the chassis before installing the new card from the console rear. Use care when inserting the card below the chassis cross piece to prevent damaging any surface-mount components.

On a DSP card make sure the RJ45 connectors are within the chassis cross piece openings and not just pressed up against the metal before tightening the mounting screws.

Tighten all mounting screws. Open the dark brown latch on the card's flat cable connectors. Set the flat cable (or cables) onto the two connectors. Use your finger to close the latch onto the flat cable. If the latch does not easily close the cable may not be set squarely onto the connector contacts. Reopen the latch and make sure the end of the flat cable sets flush below the latch.

## **6. Reinstall the connector cover panel**

**Set the connector cover panel over the new card and fasten its mounting screws after verifying the CAT-5 connectors and power connector align with their opening in the metal.**

## **7. Reinstall the meter assembly**

**Plug the two keyed cables back into J23 and J25 before setting the meter assembly back onto the chassis cross piece and connector cover panel. Use care when reinstall the assembly to prevent damaging surface-mount components.**

## **8. Plug in any removed panels**

## **9. Power up the console**

**Plug in the DC power cable from the supply. On a NetWave-24 console, turn on the rack mount supply. On consoles with an in-line supply, plug in the AC cord.**

**Verify that all panels light up properly and that the meter assembly lights up.**

## **10. Connect up audio and logic wiring**

**After swapping a card it is good practice to verify your internal connections are good by connecting up one input signal to one of the channels so you can verify the meters and outputs are working correctly before connecting up all of the remaining cabling.**

**For more help, contact Harris PR&E Radio Studio Product Support either via email ([tsupport@harris.com](mailto:tsupport@harris.com)) or phone (217.222.8200). An alternate contact is the Harris PR&E Studio Products Service Center (email: [presupport@harris.com](mailto:presupport@harris.com); contact phone: 760.936.4013).**