Collins 212A Initial Summary

Factory Specifications from Service Manual

Number of Channels

Ten – 6 x Microphone input channels – 2 x Low level transcription inputs (Can be setup as mic inputs) – 2 x Remote line inputs (Independently front panel selectable from 9 overall line input connections).

Gain Per Channel

Line to Line: 52dB.

Mic to Line: 100dB.

Input Impedance

Microphone: 50 or 250 Ohm (T101 and T103 of 6Q-1 Pre Amplifiers is P/N# 677 0065 00.

Remote lines: 150 Ohm or 600 Ohm input to repeat coil.

Transcription 30, 50, 200, or 250 Ohm.

Output Impedance: Program line: 600 Ohm balanced, Speaker: 600 Ohm unbalanced.

Output Level: Program line output: +24dBm into 600 Ohms. Monitor output: 8 watts into 600 Ohms only.

Noise Level: -60dB at normal operating levels with a low level microphone input of -60dB and with 16dBm output (this equates to a -76dBm noise output referenced to 0dBm level – this is likely one channel to output but is still very quiet).

Power Input: 105-125V AC 50 or 60 Cycles. Recommend 1.2 to 1.5kVA 220 VAC to 110VAC step down transformer for use in UK/EU/ Great care must be taken in step down transformer specification, enclosure design and safety ground routing.

Modules Complement

- 4 x Type 6Q-1 Two Channel Pre Amplifier
- 2 x Type 6N-1 Program Line Amplifier
- 1 x Type 6V-1 Monitor Amplifier (Mono 600 Ohm Loudspeaker Amplifier)

Topology and Valve Count

- Microphone and transcription inputs use same pre amplifier. Transcription inputs are not equalized. Setup of transcription inputs as mic inputs should be no issue.
- Remote line inputs are 600 Ohm repeat coils feeding Daven attenuators directly to program busses.
- Program busses are balanced, constant low impedance busses.
- Overall design is peak state of the art for early 1950's audio design. Massive transformers, highest specification Daven attenuators and WWII battleship build quality. Only best possible materials and components were used.
- Topology is very simple and very direct. All valves are operated in triode mode. The 6Q-1 Pre Amplifiers are single ended Class A, the 6N-1 Program Amplifiers are push pull Class A cathode biased and the 6V-1 Monitor Amplifier is push pull Class A or Class A/B (will determine on test) fixed bias. Negative feedback is used in the monitor amplifier only.

- Complete valve count for 212A console and one power supply

  12 x 6AQ6
  12 x 6C4
  4 x 1621
  1 x 6SN7
  2 x 6L6G
  2 x 5R4GY
  1 x 6X5G

Inspection

- Console is in very good condition and complete with no missing items and original power supply.
- One meter has differing colour background due to fading or replacement at some point. Meters do match each other and are matching part numbers.
- Direct outs have been added immediately after the preamp output transformers, before the Daven attenuators. These will be tested to see if any external loading influence would be problematic.
- Some modifications to channel assign switches and cueing system have been made. These will be traced and documented or removed.

Intended Work

- L/C/R buss assign
- Clean interior and exterior
- Clean switches
- Clean and lubricate Daven attenuators
- Check all resistors
- Rework any replacement component connections needed
- Test tubes
- Check replacement capacitors in power supply
- Add dropping resistors to replacement bridge rectifier for relay supply
- Power supply check and test
- Trace and document mods and changes
- Grounding and shield termination confirmation
- Trace and confirm new wiring
- Power console and check all voltages
- Test for leaky coupling capacitors
- Test basic functions
- Direct out loading testing
- Check transcription inputs and setup for
- Line In pad development testing
- Microphone pad development testing
- Long term burn in
- Noise testing
- Resolve any issues
- Full performance specification and feature testing
- Full test report