** PROPRIETARY DATA **
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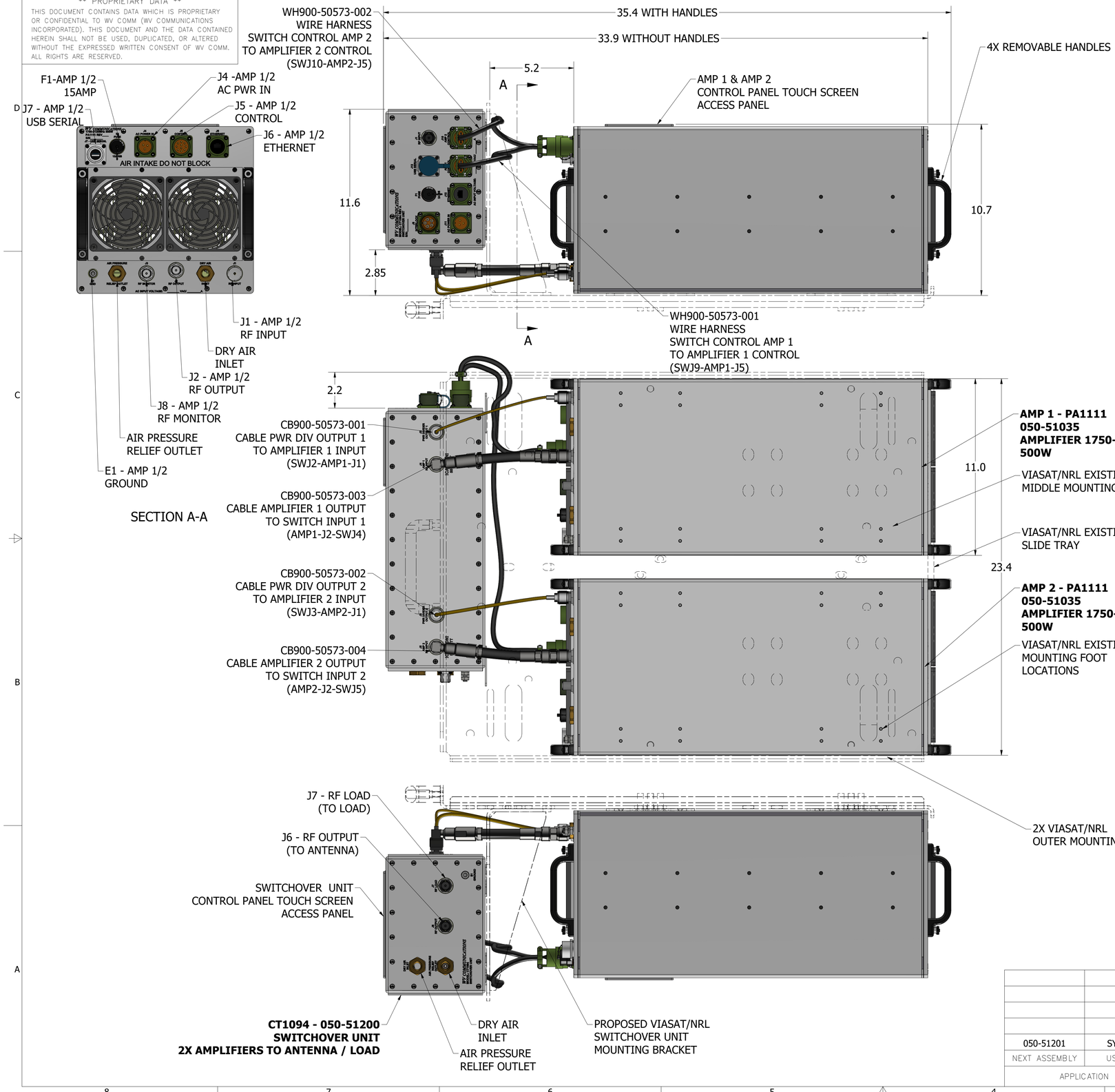
| REVISIONS | | | | |
|---|---|---|---|---|
| ZONE | REV | DESCRIPTION | DATE | APPROVED |
| | A | RELEASED | 9/22/2023 | TT |




| | |
|---|---|
| **RF OPERATING FREQUENCY RANGE:** | 1750-2120MHz |
| **RF OUTPUT POWER:** | 500W Redundant (+57dBm) Minimum at $P_{LINEAR}$ |
| **REDUNDANCY:** | Fully redundant with Auto Failover |
| **RF INPUT POWER:** | -15dBm Nominal |
| **RF INPUT POWER W/O DAMAGE:** | +10dBm Maximum |
| **SMALL SIGNAL GAIN:** | 72dB Minimum at $P_{LINEAR}$ |
| **GAIN STABILITY:** | ±1.0dB Maximum over operating temperature range<br>±0.5dB Maximum over 24 Hours at fixed input and within 10°C Range in the operating temp range |
| **GAIN OVER FREQUENCY FLATNESS:** | ±1.5dB p-p Maximum over 1750-1850/2025-2120MHz bands,<br>1dB p-p Maximum over any 20MHz Range<br>0.2dB p-p Maximum over any 1MHz<br>in the 1750-1850/2025-2120MHz Bands into 1.25:1 Load VSWR |
| **LOAD VSWR:** | Protected to operate into any Load Mismatch & Phase angle without Damage |
| **RF ATTENUATION RANGE:** | 0 to 20dB Minimum in 0.1dB Steps |
| **INPUT AND OUTPUT IMPEDANCE:** | 50Ω Nominal |
| **INPUT/OUTPUT VSWR:** | 1.3:1 Maximum (Ref 50Ω) |
| **NOISE FIGURE:** | 10dB Typical |
| **RESIDUAL AM NOISE:** | -45dBc/0-10KHz, -78dBc at 500kHz, -80dBc over 0.5-1MHz |
| **THERMAL NOISE:** | -88dBm/Hz Maximum at 500W Output power |
| **TWO TONE INTERMODULATION:** | -25dBc Maximum @ $P_{LINEAR}$* |
| **HARMONIC SIGNAL LEVELS:** | -30dBc Maximum |
| **SPURIOUS SIGNAL LEVELS:** | -60dBc Maximum over 10-5000MHz |
| **RF MONITOR OUTPUT PORT:** | -40dBc ±2dB Maximum |
| **GROUP DELAY:** | Linear: 0.02ns/MHz Maximum<br>Parabolic: 0.003ns/MHz² Maximum<br>Ripple: 1.0ns p-p Maximum |
| **AM/PM CONVERSION:** | 2°/dB Maximum @ P3dB |
| **OPERATION MODES:** | Linear (VVA), Auto Level Control (ALC) |
| **STANDARD FEATURES:** | Amplifier STANDBY/ONLINE, Mute<br>Power Units in dBm or Watts, Output Power Adjustment |
| **INDICATORS & ALARMS:** | Thermal Overload/Shutdown, FWD/REF<br>RF Output Power, Power Supply Voltage & Current, RF Power Module(s) Status/ Fault, Muting |
| **TEMPERATURE RANGES:** | Operating: -40 to +55°C (-40°C with 10 minutes warmup)<br>Non-operating: -50 to +85°C |
| **LOCAL CONTROL:** | Via Internal Color Touchscreen LCD |
| **REMOTE CONTROL INTERFACE:** | Ethernet UDP/IP & USB Virtual Serial |
| **TX INHIBIT:** | Via J8 PINS A&B<br>18-24Vdc - Amplifier On<br>0-6Vdc - Amplifier Off |
| **REDUNDANCY:** | 2ea 500W Amplifiers with Automatic Antenna/Hot Load Standby switchover when Primary Amplifier Fails |
| **COOLING REQUIRED:** | Via Built-In Forced Air Cooling |
| **AMPLIFIER PROTECTION:** | Over temperature, VSWR & Overdrive |
| **AC INPUT POWER:** | 170-264VAC, 47-63 Hz, Single Phase,<br>2,200W Maximum (AC Power Includes Amplifiers Heaters) |
| **ENCLOSURE:** | Water proof with Positive Pressure air inlets, 1 PSI Safety relief valve |
| **WEIGHT:** | 190 Lbs Maximum |
| **SIZE:** | See Drawing |
| **PAINT:** | Per MIL-PRF-82585 White, Color # 17925 Per Fed-std-595 |

*The two tone test is to be performed with each of the two tones operating at -6dB from $P_{LINEAR}$.
The -25dBc is the power of each of the 3rd order IM product relative to the power of each of the two tones.

| | |
|---|---|
| 050-51201 | SYS1045 |
| NEXT ASSEMBLY | USED ON |
| APPLICATION | |

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
FRACTIONS ± 1/64 | DECIMALS X± .1, XX± .01, XXX± .005 | ANGLES ±0°30' | HOLES XX± .005, XXX +.003 -.001
MACHINED FINISH: 32 RMS REMOVE BURRS .005 MAX
MATERIAL: - / -
FINISH: - / -
DO NOT SCALE DRAWING

| APPROVALS | DATE |
|---|---|
| DRAWN TONY T. | 9/22/2023 |
| CHECKED TT | 9/22/2023 |
| MECH ENGR TT | 9/22/2023 |
| ELEC ENGR LU | 9/22/2023 |
| PRODUCTION AM | 9/22/2023 |
| Q.A. SG | 9/22/2023 |

WV Communications
1125 A Business Center Circle
Newbury Park, CA

AMPLIFIER SYSTEM 1750-2120 500W REDUNDANT
W/ ANTENNA SWITCHOVER UNIT
MODEL: SYS1045

| SIZE | CAGE CODE | DWG. NO. | REV |
|---|---|---|---|
| D | 1GFQ7 | 050-51201 | A |
| SCALE NONE | MODEL NO. SYS1045 | SHEET 1 OF 1 | |

REV A
DWG NO. 050-51201