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DEM Part Number AOS-28 and AOS-144
RF Sensed Solid State TR Switch

Product Description and Specifications:

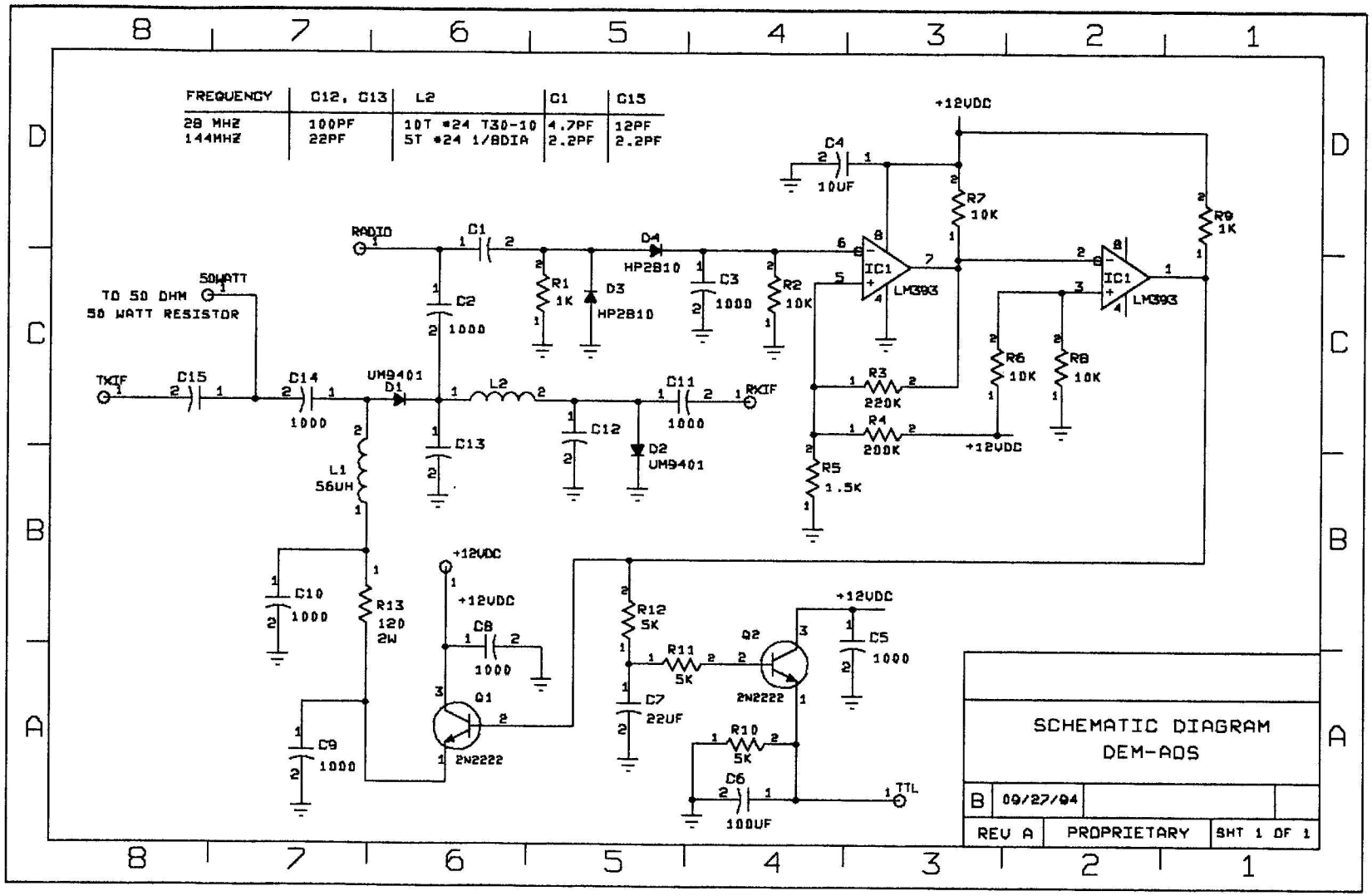
The AOS-28 and AOS-144 are RF sensed solid state transmit / receive relays with built in 25W attenuators that are designed to be used as an interface between either a 10 or 2 meter 25 watt output all mode transceiver and any transverter in the DEMI product line. In operation, the AOS-28 and AOS-144 provide split transmit / receive IF connections and a control signal used to key the transverter without modifying your transceiver. Actuation is RF sensed with RF drive levels up to 25 watts. The AOS-28 and AOS-144 contain a 35 watt 50Ω load resistor in the transmit path attenuating a 25 watt level to a factory preset nominal output of ≈ 100 milliwatts or less. In the receive path the switch has an insertion loss of less than 1dB. The AOS-28 and AOS-144 are housed in a 4.4" x 2.4" x 1.2" die cast enclosure with an external heat sink to provide cool operation under any condition.

DEM AOS 28 & AOS 144 Operating Specifications

Operating Voltage:	11.0 - 17.0 VDC, 13.8 nominal
Current Drain:	100mA Maximum Transmit, 10 mA Receive
Maximum Input Power:	**25 Watts ALL Modes!!!**
Maximum Input VSWR:	< 2.1
Transmit Port Output:	100mW maximum (+20 dBm) with 25W input power
RX to TX Port Isolation:	>30dB
Operation Frequency:	AOS-28 (26 - 30 MHz) AOS-144 (144 - 148MHz)
Control Signal Output:	+2 -12 VDC, source 25mA
Connectors:	SO-238 UHF for Transceiver, BNC for IF

Connections and operation:

1. Transverter will need to be configured for PTT-H. See its operation manual to verify and make configuration changes if required.
2. Connect RXIF and TXIF connections on both transverter and AOS. Use good quality coax with BNC connectors.
3. Connect control line from AOS to PTT connection on transverter (PTT-H only!).
4. Connect DC connections to both AOS and transverter.
5. Connect good quality coax between AOS transceiver input and output connector of the 25 watt maximum transceiver to be used.
6. Connect antenna or load including output power measuring device for transverter.
7. Power up transverter and AOS and listen for receive noise.
8. Test transmit by keying transceiver and verifying that transverter keys when RF is applied.
9. Adjust TXIF gain control in transverter for desired output power per its operation manual.
10. Verify all modes of operation that are to be used for power output. CW and FM output powers may exceed the SSB output power rating for good linear operation.


FREQUENCY | C12, C13 | L2 | C1 | C15
28 MHZ | 100PF | 10T #24 T30-10 | 4.7PF | 12PF
144MHZ | 22PF | 5T #24 1/8DIA | 2.2PF | 2.2PF
+12VDC
C4
10UF
R7
10K
R9
1K
RADIO
C1
D4
HP2810
R1
1K
D3
HP2810
C3
1000
R2
10K
IC1
LM393
C2
1000
50WATT
TO 50 OHM
50 WATT RESISTOR
TXIF
C15
C14
1000
UM9401
D1
L2
C11
1000
RXIF
R3
220K
R4
200K
R6
10K
R8
10K
C13
C12
D2
UM9401
L1
56UH
R5
1.5K
C10
1000
R13
120
2W
C8
1000
Q1
2N2222
C9
1000
R12
5K
R11
5K
Q2
2N2222
C5
1000
C7
22UF
R10
5K
C6
100UF
TTL
SCHEMATIC DIAGRAM
DEM-ADS
B
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REV A
PROPRIETARY
SHT 1 OF 1