ETHERNET TRANSCEIVER ELECTRICAL CHARACTERISTICS

1.0 Station

1.1 Input: XDATA
1.11 Resistance: 132 ohms nominal
1.12 Logic: Negative ("0" volt) true
1.13 Interface: 5 volt TTL compatible

1.2 Outputs: TROTHER & TRDATA
1.21 Type of drive: Open collector
1.22 Low state current sinking: 48 ma max.
1.23 Logic: Positive (> 2 volts) true
1.24 Interface: 5 volt TTL compatible

2.0 Ether

2.1 Input: ETHER
2.11 Resistance: ≥ 100k ohms
2.12 Capacitance: ≤ 10pf
2.13 Bias current: ≤ -15ua
2.14 Max. input voltage without damage: +10 volts, -.4 volts

2.2 Output: ETHER
2.21 Drive voltage: +3 volts (Nominal) into 37.5 ohms
2.22 Rise & Fall times: 12ns typical
2.23 Waveform: Pulse

2.3 Power shut down at output incase of catastrophic failure at output stage:

3.0 Transceiver

3.31 Frequency range: 1.3 MHz to 3.3 MHz
3.32 Duty cycle range: 30% to 70% or 140 ns whichever is closer to 50%
3.33 Waveform: Pulse
3.34 Ether ground potential noise immunity: 50 volts DC reducing to 15v peak to peak at 100k Hz
3.35 Power requirement: +15 volts ± 2% @ 80 ma (typical)
3.36 Operating temperature: 10°C to 40°C
3.37 Storage temperature: 0°C to 50°C
3.38 Size: 2¾" H x 4" W x 2¾" D
**ETHERNET STATION PARTS LIST**

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**Capacitors**

| C1      | El   | DM-19-102J | Mica 1000pf 5% 500v          |
| C2      | El   | DM-15-270J | Mica 27pf 5% 500v            |
| C3      | Sp   | 196D106X9020JA1 | Tantalum 10uf 10% 20v        |
| C4      | Sp   | 196D106X9020JA1 | Tantalum 10uf 10% 20v        |
| C5      | Sp   | 196D106X9020JA1 | Tantalum 10uf 10% 20v        |
| C6      | Sp   | 196D106X9020JA1 | Tantalum 10uf 10% 20v        |
| C7      | El   | DM-15-221J | Mica 220pf 5% 500v          |

**Inductor**

| L1      |      |          | 150uH                        |

**Transformers**

| T1      |      |          | Power transformer            |
| T2      |      |          | Coupling transformer         |
| T3      |      |          | Coupling transformer         |

**Semiconductor devices**

| D1      | TI   | 1N914    | Diode                        |
| D2      | TI   | 1N914    | Diode                        |
| Q1      | TI   | TIP3055  | NPN power transistor         |
| Q2      | TI   | TIP3055  | NPN power transistor         |
| IC1     | TI   | SN75140P | Dual line receivers          |
| IC2     | TI   | SN7438N  | Quad 2-Input + NAND Buffers  |
| IC3     | TI   | SN7404N  | Hex Inverters                |
ETHERNET ETHER PARTS LIST

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Capacitors

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Semiconductor Devices

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*Note:

El  Elmenco
Sp  Sprague Electric Co.
TI  Texas Instruments, Inc. Semiconductor div.
F.  Fairchild Camera & Instrument Corp. Semiconductor div.
GE  General Electric Co. Semiconductor div.
Sig  Signetics Corp.
Mon  Monsanto Co. LED div.
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Title: ASSEMBLY, CABLE-ETHERNET (EXTERNAL)

Xerox Corporation
El Segundo, California

Sheet 5 of 5
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