



communications

Southern California
A Subsidiary of L-3 C
2732 Via Orange Way, Suite E
Spring Valley, CA 91978-1744
619-670-3414 Fax 619-670-0127

Post-It® Fax Note 7671

Date	4/16/01	# of pages	12
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TRX23SA/SC/422 COMMAND RECEIVER

ELECTRICAL SPECIFICATIONS

RF CHARACTERISTICS:

Frequency Range:..... 2250 to 2299 MHz in 1 MHz increments
Frequency Selection:..... 1 MHz steps via TTL BCD code
Frequency Stability:..... $\pm 0.003\%$
Noise Figure:..... 6 dB maximum
Sensitivity (Baseband):..... -91 dBm max. for 10-6 BER
Sensitivity (Subcarrier):..... -89 dBm max. for 10-6 BER
Input Impedance:..... 50 ohms
Input VSWR:..... 2:1 maximum
Dynamic Range:..... 80 dB minimum
Image/Spurious Rejection:..... 60 dB minimum
IF Bandwidth:..... 500 kHz 3 dB nominal
L.O. Radiation:..... -25 dBm maximum
Incidental Frequency Modulation:..... 3 kHz peak maximum

Power:... +12 to +36 VDC, 0.5 amp max., reverse polarity protected

BASEBAND CHARACTERISTICS:

Output Amplitude:..... DC Coupled, RS422 compatible, 56 Kbps max.

SUBCARRIER CHARACTERISTICS:

Output:..... RS422 Compatible up to 38.4 Kbps

ENVIRONMENTAL SPECIFICATIONS

Temperature:..... -20 to +71 degrees C
Altitude:..... Unlimited
Vibration:..... 20 g rms 20 Hz to 2000 Hz, 0.4" DA max.
Shock:..... 100 g 11 ms 1/2 sine, 3 axes
Acceleration:..... 100 g, 3 axes
Humidity:..... up to 95%



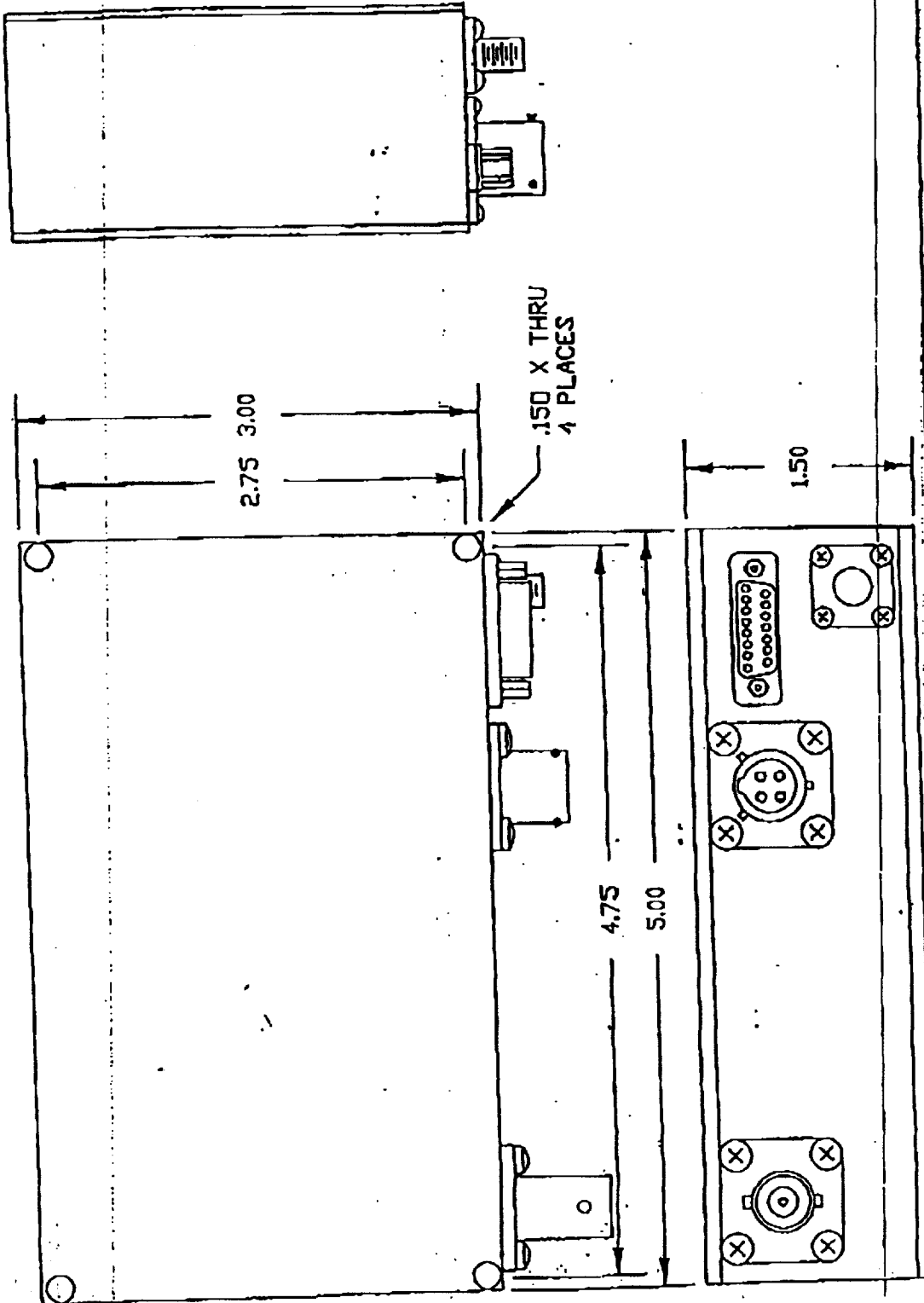
communications

TRX23SA/SC/422 Con't

MECHANICAL SPECIFICATIONS

Size:..... 1.5" X 3.0" X 5.0", plus connectors
Weight:..... 18 ounces maximum
Mounting:..... See outline drawing

Connectors:..... SMA female
RF Input:..... PTO2H12-10P
Power/Baseband/Subcarrier/Log Amp Output:..... MDM159
Frequency Select:.....
(Mates supplied for all multi-pin connectors)



SOUTHERN CALIFORNIA MICROWAVE			
SCALE: FULL	APPROVED BY:	DRAWN BY: DC	
DATE: 12/90		REVISED:	
OUTLINE DRAWING		DRAWING NUMBER	
TELEMETRY RECEIVER		23S1504	



communications

Southern California Microwaves, Inc.
A Subsidiary of L-3 Communications
2732 Via Orange Way, Suite E
Spring Valley, CA 91978-1744
619-670-3414 Fax: 619-670-0127

TTX13S-10A/SC/422 COMMAND TRANSMITTER

ELECTRICAL SPECIFICATIONS

RF CHARACTERISTICS:

Frequency Range:..... 2250 to 2299 MHz
Frequency Selection:..... 1 MHz steps via TTL BCD code
Frequency Stability:..... $\pm 0.003\%$
Output Power:..... 10 watts minimum
Output Impedance:..... 50 ohms
VSWR:..... 1.5:1
RFI:..... IRIG 106-96
Open/Short Protection:..... Open and short protected
(Internal isolator)

POWER REQUIREMENTS:

Input Voltage:..... 28 ± 4 VDC @ 3 amps maximum
Isolation:..... B- common to chassis
Reverse Polarity Protection:..... Yes

MODULATION CHARACTERISTICS:

Type:..... True FM
Input Impedance:..... RS422 compatible, 56 Kbps max.
Carrier Deviation:..... set to ± 400 KHz
Incidental AM:..... 5% maximum
Incidental FM:..... 10 kHz p-p. maximum

SUBCARRIER CHARACTERISTICS:

Frequency:..... 150kHz
Modulation Input:..... RS422, up to 38.4 Kbps
Deviation:..... ± 30 kHz

ENVIRONMENTAL SPECIFICATIONS

Temperature:..... Operating: -20 to +71 degrees C baseplate
Vibration:..... Sine: 20 g, 5 - 2000 Hz, 0.4" DA max.
Shock:..... 100 g, 11 msec., 3 axes, 1/2 sine
Acceleration:..... 100 g, 3 axes
Altitude:..... Unlimited
Humidity:..... up to 95%



communications

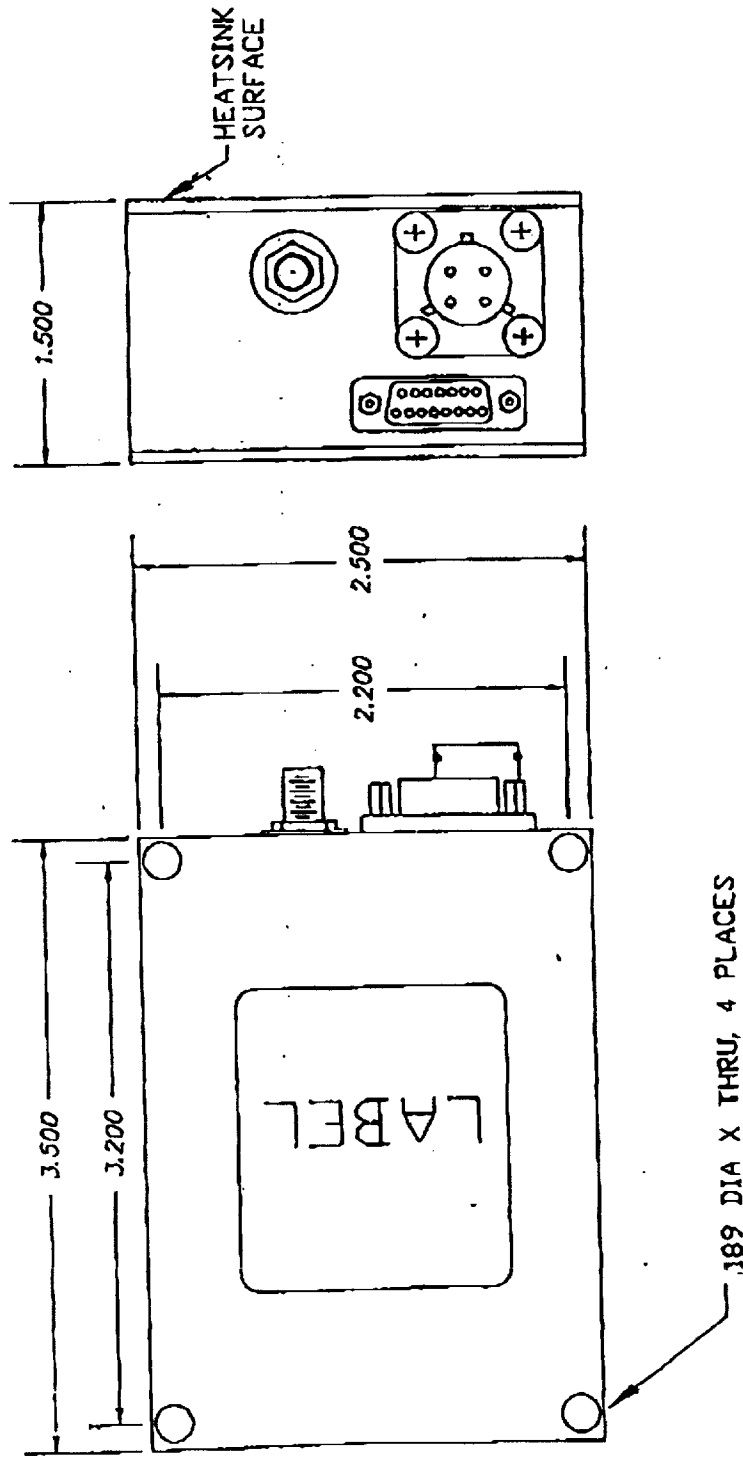
TTX13S-10A/SC/422
Con't

MECHANICAL SPECIFICATIONS

Dimensions:..... See outline drawing
Weight:..... 16 oz. maximum

CONNECTORS:

RF:..... SMA Female
Power/Mod Inputs:..... PT02H12-10P (mate supplied)
Frequency Selection:..... MDM15S (mate supplied)



SOUTHERN CALIFORNIA MICROWAVE	
SCALE: FULL	APPROVED BY: HJS
DATE: 5/28/96	REVISED:
OUTLINE DRAWING	DRAWING NUMBER
13 CUBIC INCH HOUSING	T13S4D15



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Southern California Microwave, Inc.
A Subsidiary of L3 Communications
2732 Via Orange Way, Suite E
Spring Valley, CA 91978-1744
619-670-3414 Fax: 619-670-0127

VRX23SA/2SC/422 VIDEO/DATA RECEIVER

ELECTRICAL SPECIFICATIONS:

Frequency Range..... 2100 to 2140 MHz, tunable in 1 MHz steps
Frequency Selection:.. via jumpered connector or Thumbwheel Switch
Frequency Stability:..... $\pm 0.003\%$
Input Impedance: 50 ohms
Input VSWR:..... 2:1 maximum
Image Rejection:..... 60 dB minimum
Noise Figure:..... 5 dB maximum
IF Bandwidth:..... 20 MHz 1 dB, 22 MHz 3 dB nominal
L.O. Radiation:..... -25 dBm maximum

VIDEO MODULATION CHARACTERISTICS:

Output Amplitude:..... Adjustable, up to ± 1.5 V p-p for ± 4 MHz
deviation into 75 ohms
Output Polarity:..... Increasing frequency causes positive output
voltage
Output Frequency Response:..... 6 Hz to 5 MHz, ± 1 dB
per CCIR 405 525 line de-emphasis curve
Linearity:..... $\pm 2\%$ of best straight line
Distortion:..... 1% maximum

SUBCARRIER CHARACTERISTICS:

Frequencies:..... one @ 6.2 and one @ 6.8 MHz
Output Amplitude:..... RS422 compatible, 56 Kbps max.
Log Amplifier Output:..... 0 to +5 VDC via 1 k-ohm
Input Power:..... +12 to +32 VDC @ 0.75 amp maximum

MECHANICAL SPECIFICATIONS

Size:..... 3 X 5 X 1.5 inches
Weight:..... 24 ounces maximum

Connectors:

RF Input:..... SMA female
Video Output:..... BNC female
Power In/S.S./Subcarrier Out:..... PT08-H12-10P (mate supplied)
Frequency Selection:..... MDM15S (mate supplied)

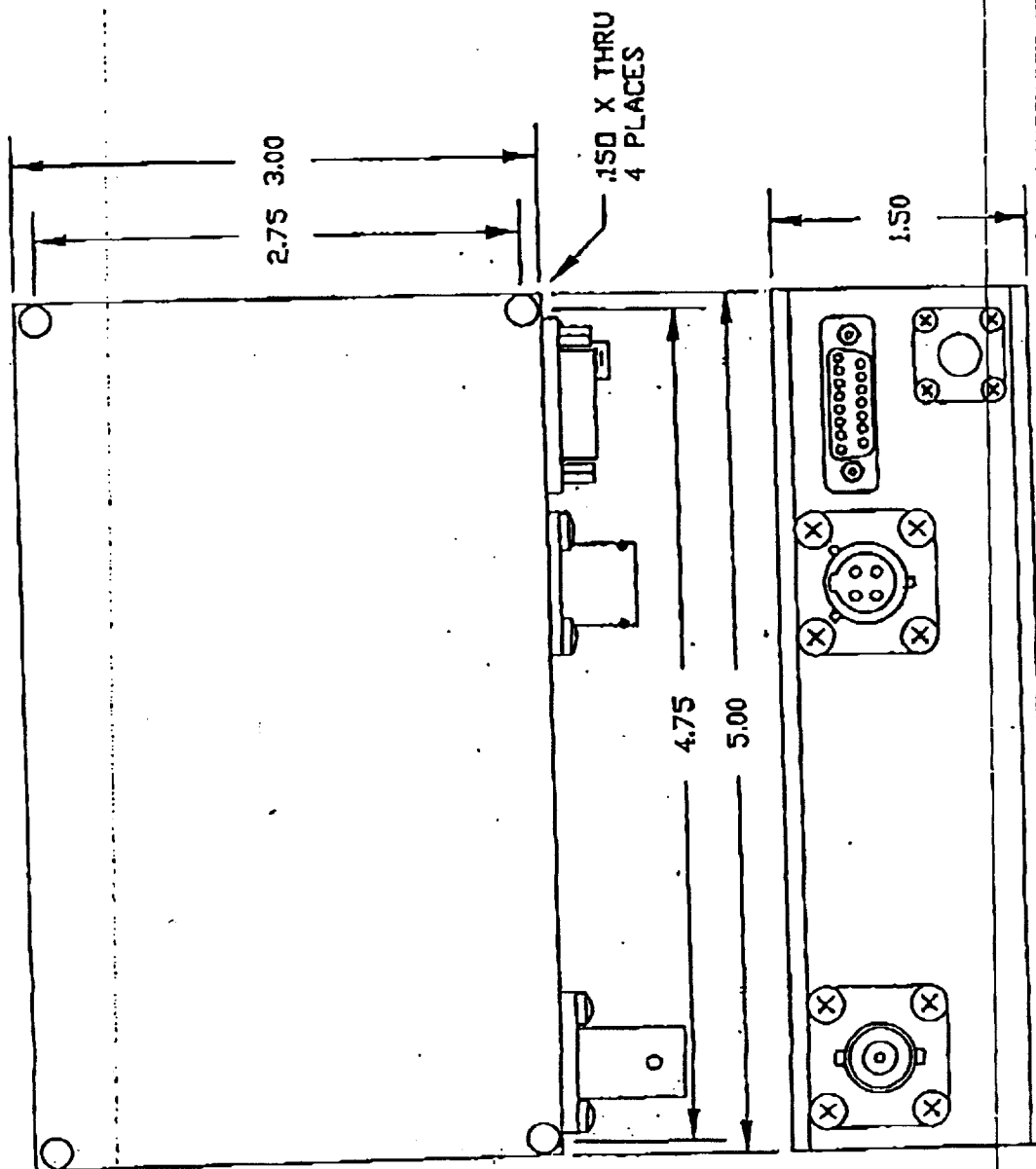
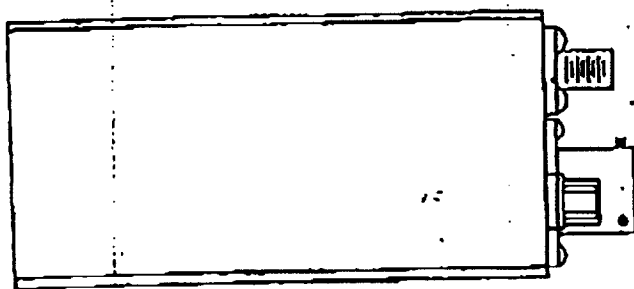


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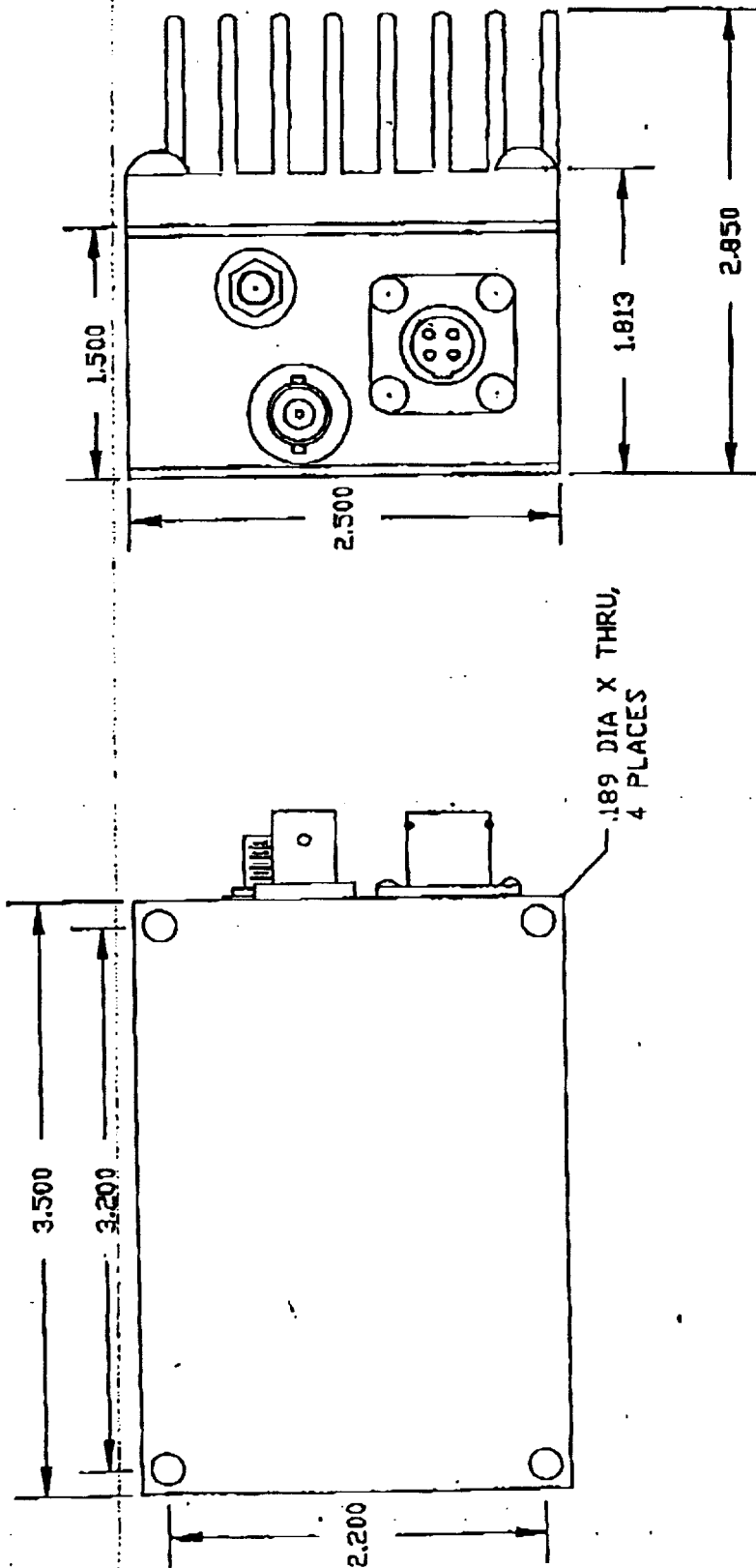
VRX23SA/2SC/422 Con't

ENVIRONMENTAL SPECIFICATIONS

Temperature:..... -20 to +71 degrees C
Vibration:..... 20 g rms, 5 Hz to 2000 Hz, 0.4" DA maximum
Shock:..... 100 g, 11 ms, 1/2 sine
Acceleration:..... 100 g
Humidity:..... up to 95%



SOUTHERN CALIFORNIA MICROWAVE	
SCALE: FULL	APPROVED BY
DATE: 12/90	REVISION
OUTLINE DRAWING	
TELEMETRY RECEIVER	
DRAWING NUMBER 23S1584	



SOUTHERN CALIFORNIA MICROWAVE			
SCALE FULL	APPROVED BY	DRAWN BY BC	
DATE 6/25/93	REVISED	DRAWING NUMBER	
OUTLINE DRAWING		13SB4HSK	
VTX13 WITH HEATSINK			