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Southern California
A Subsidiary of L-3 C
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Post-It® Fax Note	7671	Date	4/16/01	# of pages	12
To	Roger Madden	From	Michelle For Standard		
Dept	MDST	Co.	MDST		
Phone #	850-444-4986	Phone #	940/328-1197 X164		
Fax #	850-410-5524	Fax #	940/328-0753		

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:..... ±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%



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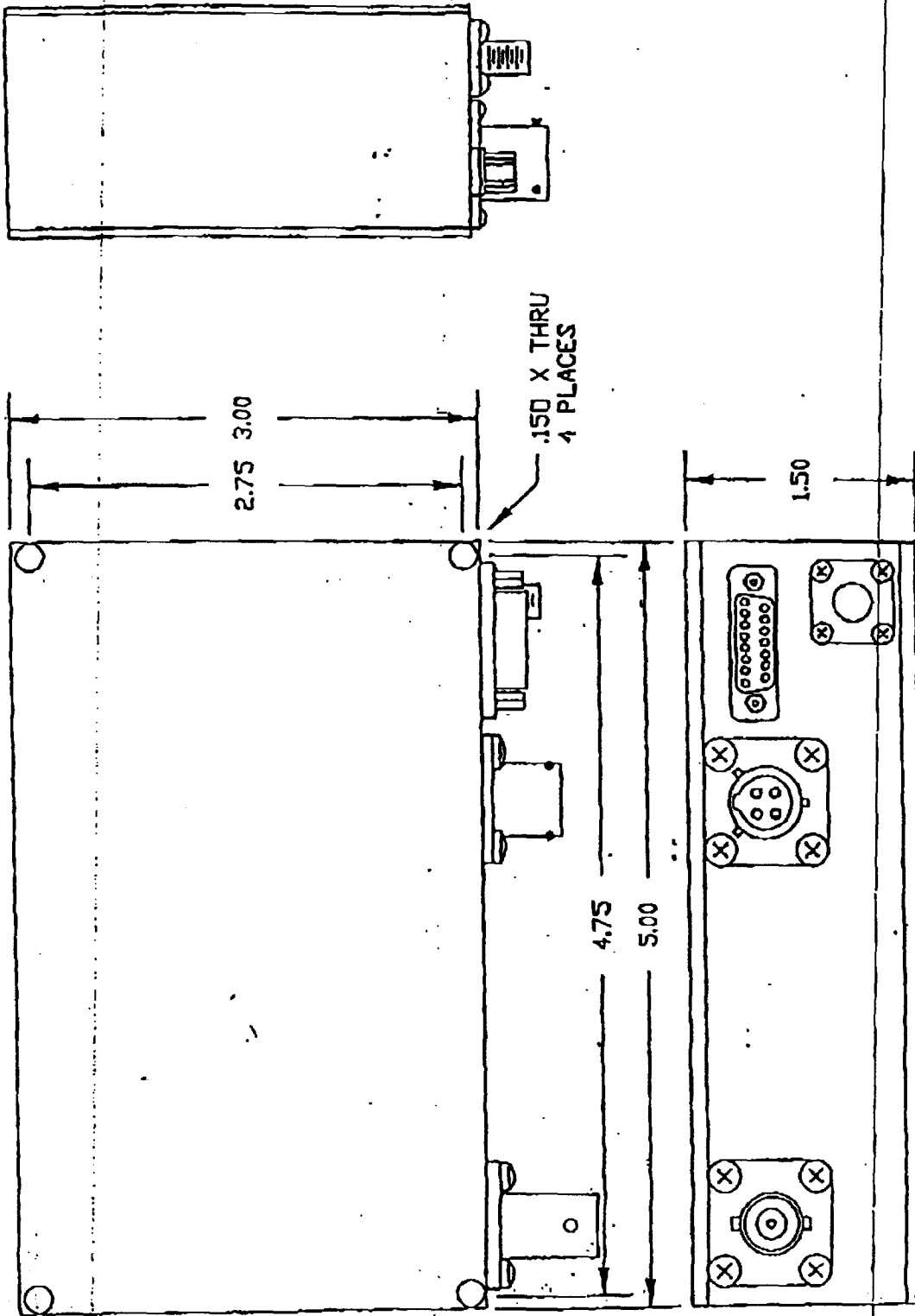
TRX23SA/SC/422 Con't

MECHANICAL SPECIFICATIONS

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

Connectors:

RF Input:..... SMA female
Power/Baseband/Subcarrier/Log Amp Output:..... PTO2H12-10P
Frequency Select:..... MDM15S
(Mates supplied for all multi-pin connectors)



SOUTHERN CALIFORNIA MICROWAVE	
SCALE: FULL	APPROVED BY: DRAWN BY: DC
DATE: 12/90	REVISION:
OUTLINE DRAWING	
DRAWING NUMBER 23S15B1	
TELEMETRY RECEIVER	



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Southern California Microwave, Inc.
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2732 Via Orange Way, Suite E
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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 \pm 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

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

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TTX135-10A/SC/422
Cont

MECHANICAL SPECIFICATIONS

Dimensions: See outline drawing

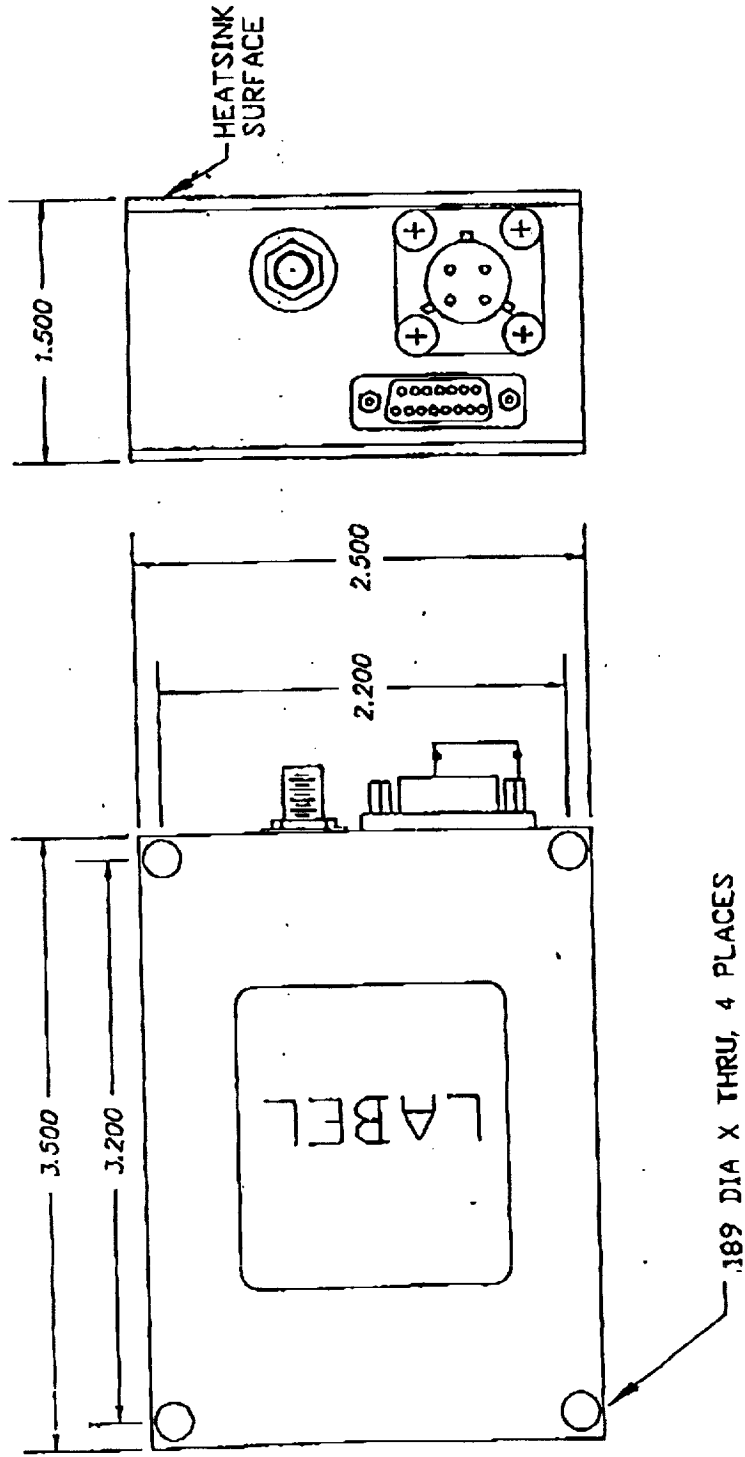
Weight: 16 oz. maximum

CONNECTORS:

RF: SMA Female

Power/Mod Inputs: PT02H12-10P (mate supplied)

Frequency Selection: MDM155 (mate supplied)



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



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2732 Via Orange Way, Suite E
Spring Valley, CA 91978-1744
619-570-3414 Fax: 619-570-0127

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:.....	±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:.....	±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)

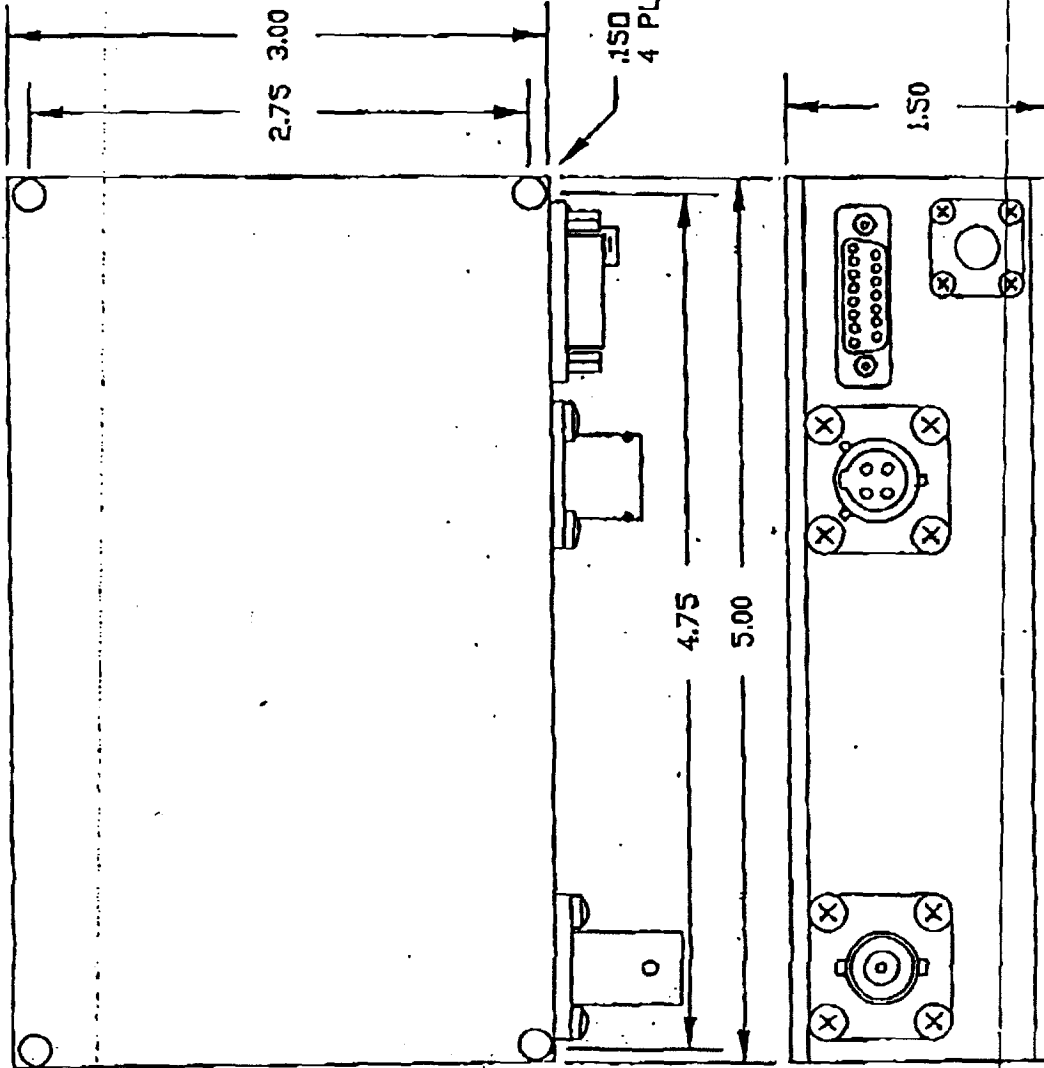
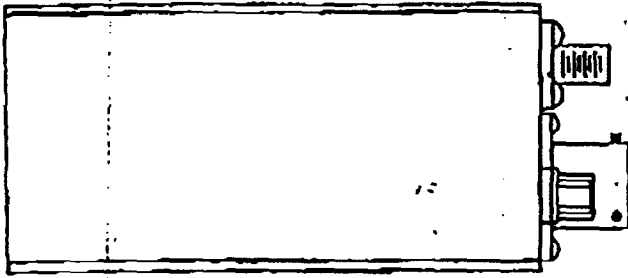


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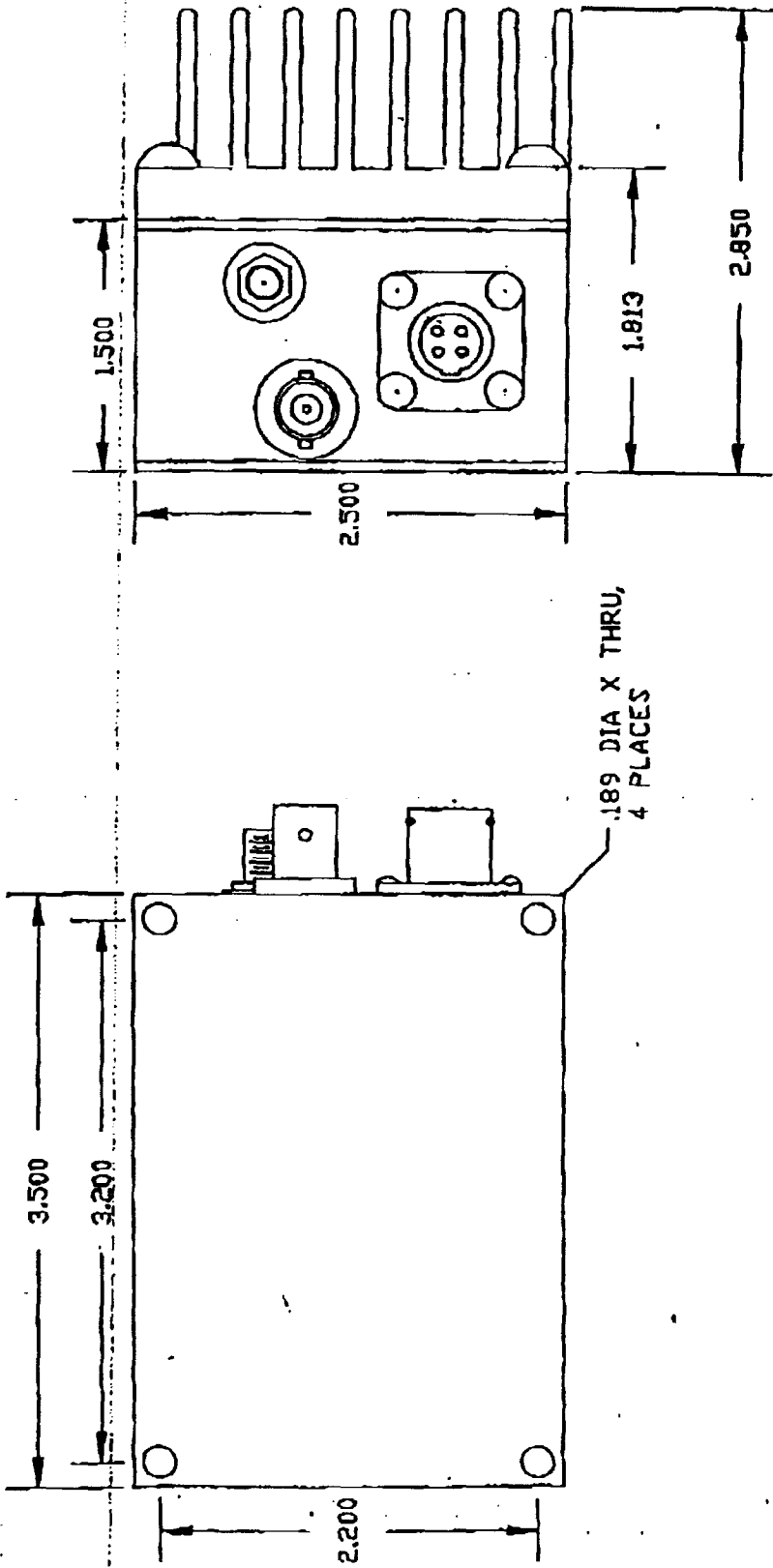
VRX23SA/2SC/422 Con't

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	DRAWN BY: BC
	REVISED
	DRAWING NUMBER
	23S15B4



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